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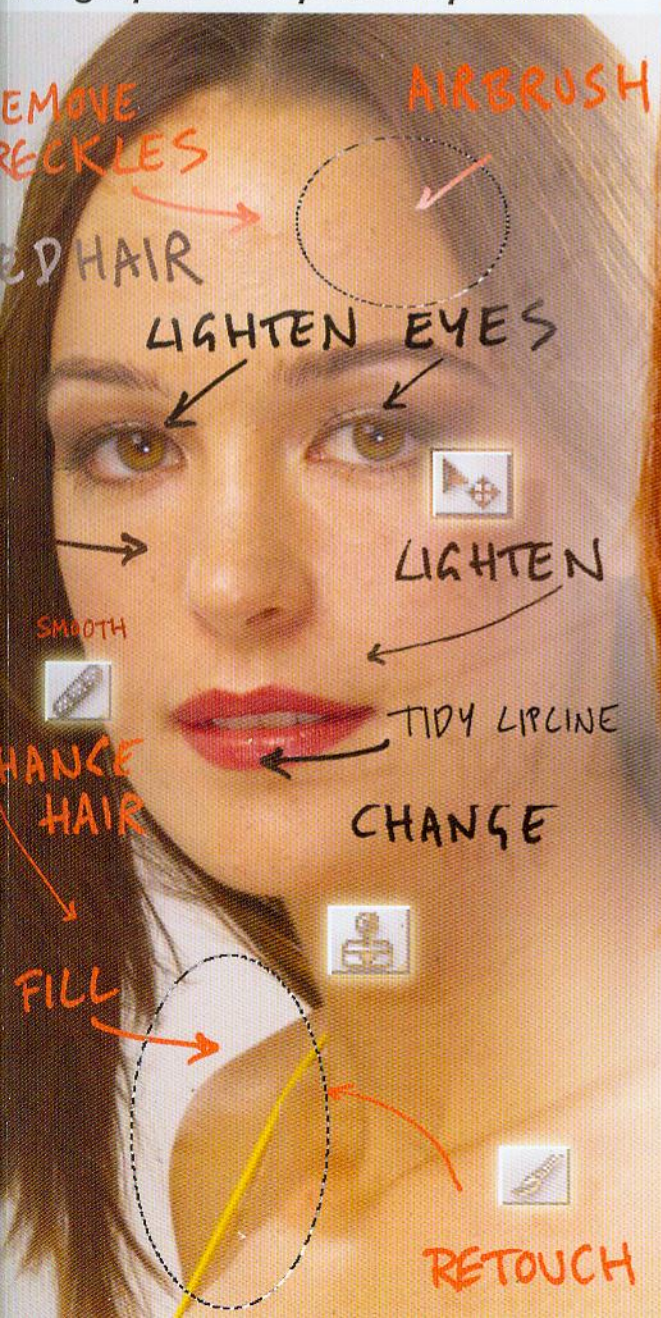

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FULL PROJECT

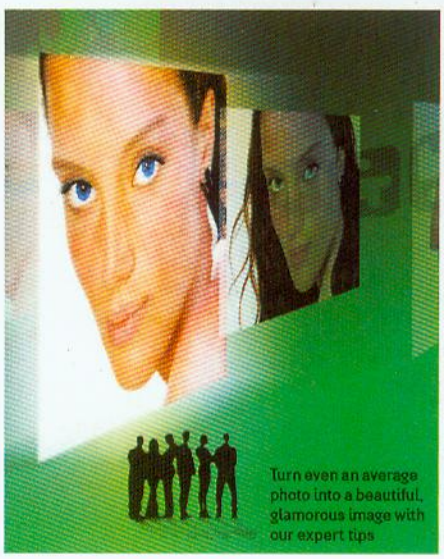
Follow our 52-page guide to enhance and transform a photograph

CREATE THE PERFECT BODY

SECTION ONE

16 Remove imperfections

Take the original photo of a model from a photo shoot and tidy up any blemishes, reflections and other distracting elements



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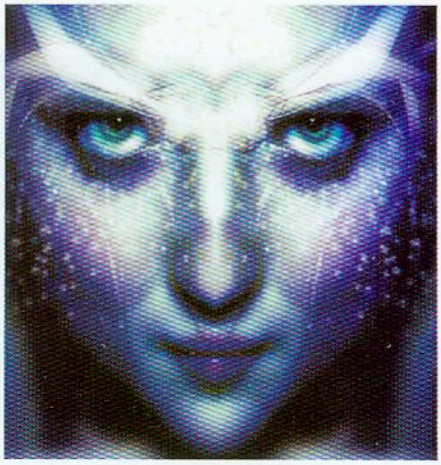

All the files you need to complete this project are on our cover disc. Turn to page 94 for details

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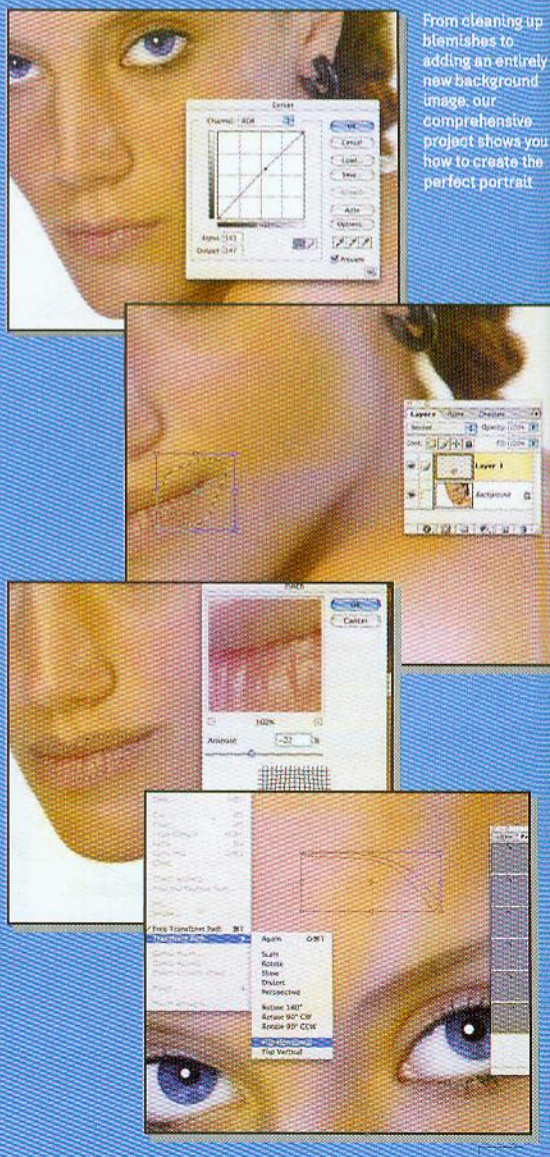


From cleaning up blemishes to adding an entirely new background image, our comprehensive project shows you how to create the perfect portrait

Past perfect

From the photo retouching techniques of the Victorian photographers to the modern day power of *Photoshop*, we trace the history of manipulating portraits...

Although it's hard to believe that Kate Winslett's artificial thighs had their roots in some Victorian lady's florid facial boil, it's a fact worth remembering the next time you go to town with the Healing brush. While the Apple Mac was merely a glint in the eye of Steve Jobs's great-great-great grandparents somewhere in the middle of the 19th century, Victorian photographers were busy etching out scars, spots and the remnants of scurvy on the recording medium of the time – glass plates. And the surprising thing is that the basic principles of retouching altered little right up to the dawn of silicon and the death of the conventional airbrush. Metro Imaging's Creative Director, Mario Capaldi, takes up the story.

"Once the offending blemish was scratched off the glass plate, a black and white print would be made and there would be a white hole instead of a boil," he says. "An artist would then stipple in some dye to mimic flesh tone on the actual print and hey presto – you've made a dour Victorian a little happier about their perfect-looking skin."

Mario explains that with the invention of the negative in the late 1880s, blemishes were better dealt with on the actual print, and two popular techniques emerged. The first was simply to apply paint to the surface of the print, covering up the problem area but at the same time leaving a visibly painted surface. The second more popular, but more difficult, method was to bleach out areas and stipple in the fresh tone with a dye, making the retouching work pretty much invisible.

"It wasn't really until the late 1940s and early 1950s that commercial photography kicked off," says Mario. "There were photographs reproduced before this period, but it certainly wasn't commonplace. It was the advertising industry and the emergence of catalogues that brought photographic reproduction to the fore."

It was the advertising industry that first made regular use of retouching, an increasingly skilled and costly affair. Techniques improved over time, as did the tools of the trade. Complex masks were created using a variety of different materials over the years. A cream-like material that turned to rubber after five minutes was popular before the invention of Transfaseal, a clear, transparent film that was layered on, before the shape was cut with a scalpel and peeled off. Then the airbrush began to be used for the blocks of colour that the paintbrush had trouble handling.

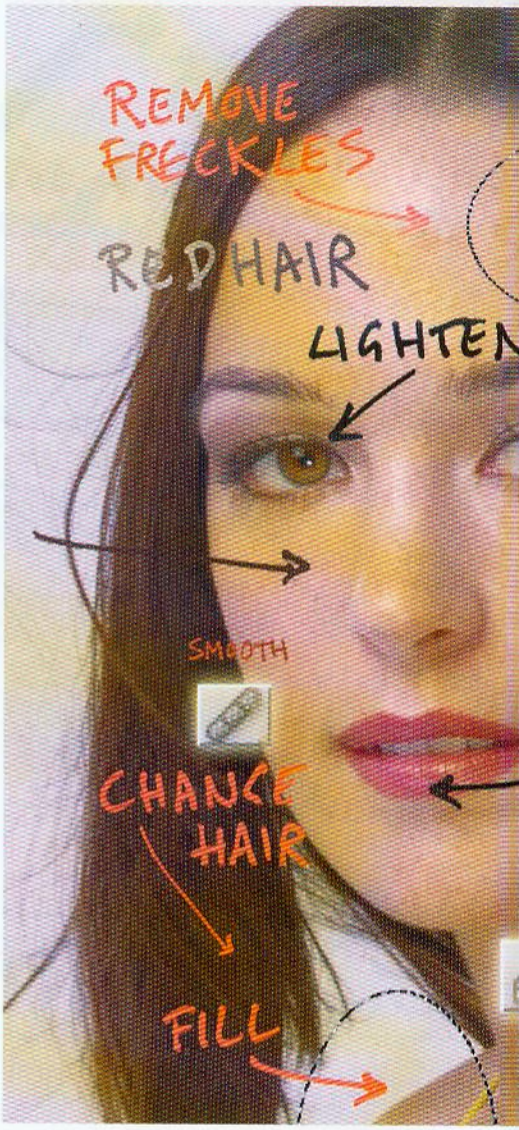
Retouching had quickly become the preserve of a handful of talented individuals and the emergence of colour photography in the 1950s brought with it an even higher degree of specialisation. "The C-type and R-type colour printing methods that first came onto the scene didn't lend themselves to retouching work," Mario says, "so a system called dye-transfer was developed, which involved hand-rolling a print base in separate colours (cyan, magenta, yellow and black), allowing retouchers to bleach away each tone individually with a soft brush. This gave them precise control over colour balance and tonality. Dye-transfer prints are arguably the finest colour prints ever produced, and they're still used in some quarters for exhibition work."

While the retouching techniques for black and white imagery remained largely the same up to the advent of digital, conventional colour retouching underwent a further mutation before it was finally laid to rest. This

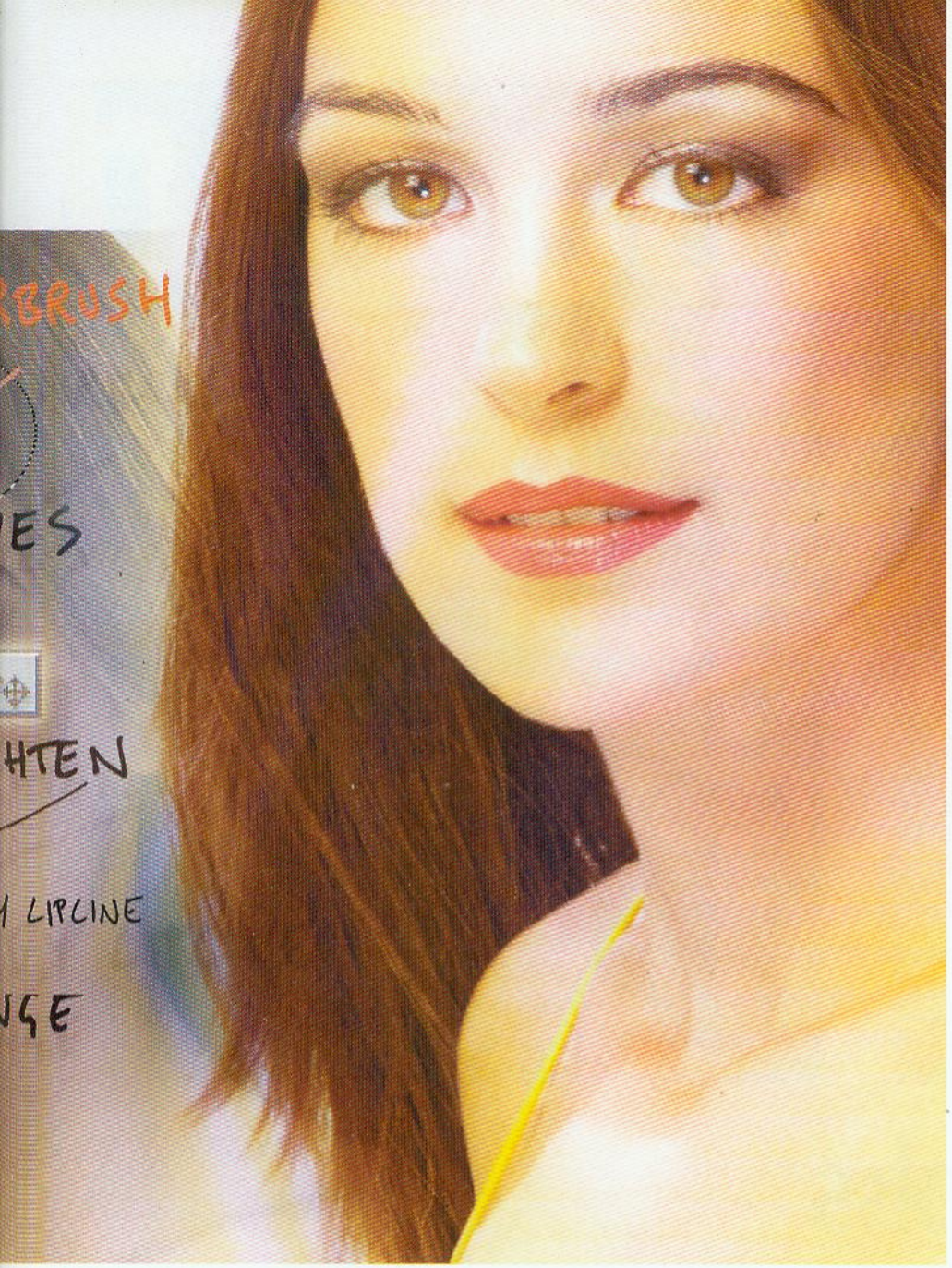
John Proudfoot of retouching house Lifeboat Matey

"There are no disadvantages to digital manipulation, just enormous benefits. You've got control over every aspect of your image and you can combine photographs seamlessly. With conventional retouching you're limited by what you can actually do to a print or transparency. There are no such limitations with digital, and you can blow things up to get to the smallest detail. I knew it was time to make the crossover when more and more agencies started asking for digital proofs. I had to make the transition quickly – it was a case of tapping up your colleagues for help and borrowing a series of videos on *Photoshop 4*. Once I'd mastered the software it wasn't too difficult at all – using the graphics tablet is very similar to using a conventional airbrush.

"Working digitally has speeded up the whole process enormously. A job that would take two or three days now takes two or three hours, so a lot more is expected of you in terms of the volume of work you produce, and so deadlines are shorter too. There's less planning involved and people tend to leave the retouching right up to the wire."



Ever since photography was invented, retouchers have worked at improving the images produced by cameras. Our project in this issue shows how far the techniques have been refined, and with powerful home computers and software like *Photoshop*, almost anything is possible with digital imaging today.



was at the behest of the reprographics industry, who acquired a new toy in the 70s called a drum-scanner, which didn't get on at all well with the dye-transfer print. After muddling along for some time with the two opposing technologies, the breakthrough came with the invention of the humble transparency in the mid-1950s – a 'positive' film that promised exceptional quality and perfect compatibility with the scanners of the day. And so the experts in the retouching world found themselves adapting and applying their bleach and dye techniques again, this time to an enlarged duplicate transparency rather than a colour print.

"It was around this time in the late 70s and early 80s, that the big retouching houses emerged across the world," Mario says. "Studio 10 on Farringdon Road was one of the biggest in the UK, and they literally had rooms and rooms full of retouchers at a time when these skills were very few and far between. They were all working freelance and commanding massive hourly rates. These boys were earning six figures and turning up in new Porsches every week, but then it was a very highly skilled job and there were very few people with enough talent to do it.

"But the 80s also saw the arrival of computers on the scene," Mario continues. "I was working at Studio 10 when they bought their very first computer for hundreds of thousands of pounds – a Scitex. This thing looked like something out of *Mission Impossible*; it was absolutely huge and had to be kept in its own air-conditioned room and operated by men in white coats wearing latex gloves. All the famous campaigns were going on at this time and the company had brought in the Scitex to speed up page planning, combining text with the images. There weren't any techies or IT people at the time so they gave the task of sorting out this computer to a chap called Joey Fernandez, who had a conventional photographic background.

"I remember Joey wandering into the office saying, 'Do you know you can retouch on this thing?' He'd worked out that the page planning was achieved with pixel replacement and the same software could actually be used to perform some rather crude retouching tasks. This changed everything, and the boss at the time, David Taylor, set about working out how to put it to use. He had a go at getting conventional retouchers to do it, but they couldn't get their heads around it – it was too alien for them. This was around the time of the start of the gaming era and there were a lot of young people coming out of art school with a real enthusiasm for computers, so David drafted them in. The idea of coming in to do work for these cutting edge ad agencies and using state of the art computers appealed to lots of youngsters."

Studio 10 was the first company in the world to put computers to use for retouching, Mario claims, and it wasn't long before others followed suit. Meanwhile, David Taylor was able to offer an ultimatum to the conventional retouchers who were asking the earth for their work, remembers Mario – a salaried position of £40,000 (a lot at this time) or no work at all. The majority came on board since there was still plenty of conventional work around. It was decided on a job-by-job basis which would be best for digital and which would be best for conventional. Something like a standard *Vogue* cover was still a lot quicker to do conventionally, says Mario, whereas the more complex cut-outs lent themselves to digital.

"All the creative people started experimenting and pushing this technology to its limits. New computers arrived on the scene and you started to get a lot of images commissioned to take advantage of the technology, such as bulging eyes, rubber faces and the like. More people came into the industry and the prices of retouching suites started to drop, bringing us to the situation we have today where amateurs are able to afford equipment that can do professional jobs, namely a Mac and *Photoshop* software. It was only really four or five years ago that Macs came up to speed with the Bar Co system though."

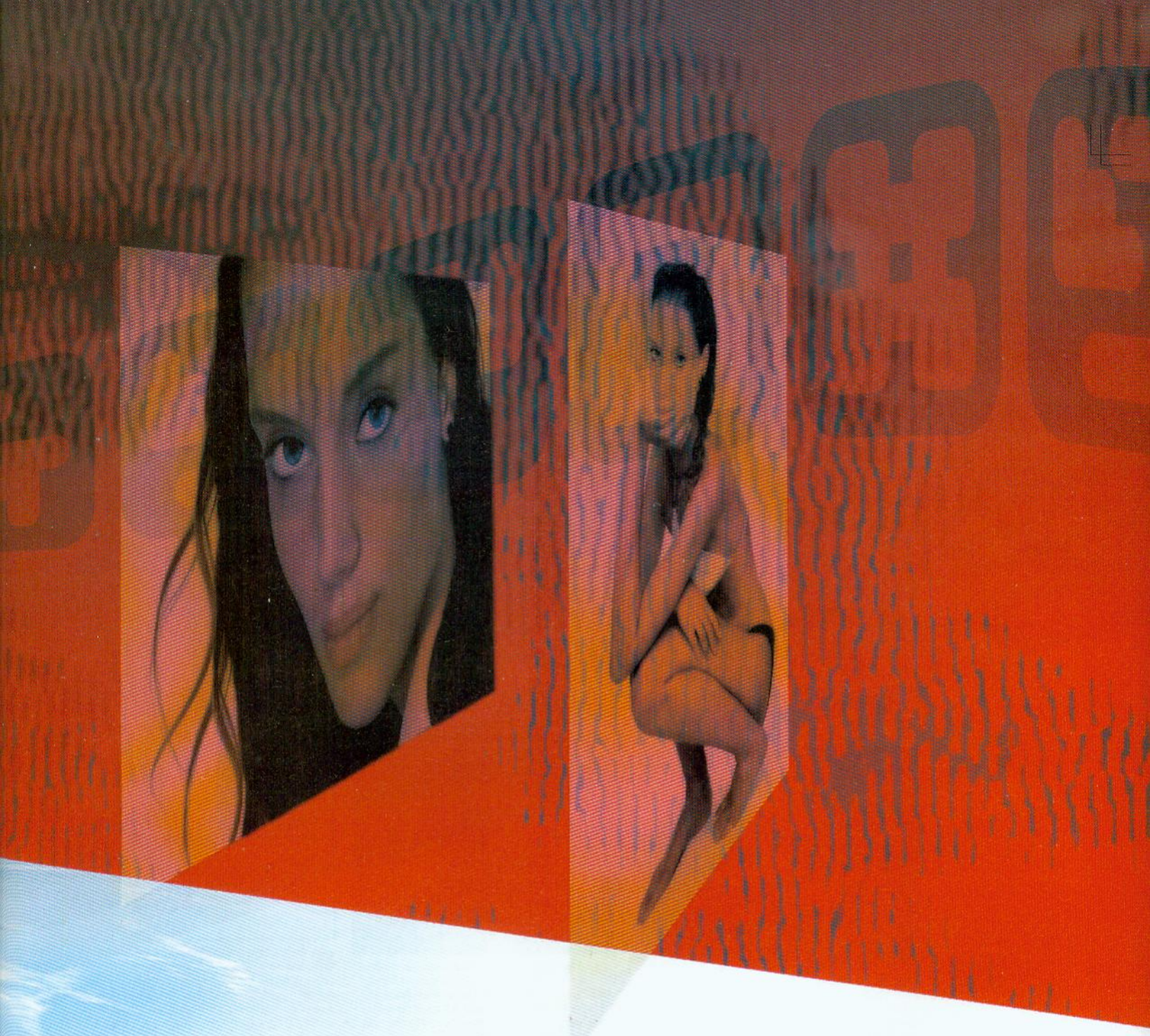
Predicting the future of digital imaging is difficult. Mario is adamant that retouching is no longer the right word for the job. "There's so much more to digital manipulation than retouching – virtually anything is possible, and it's common for us to be asked to do the sorts of things that conventional retouchers could never have imagined," he says. "It is hard to see a time when photography becomes redundant though – it's so much easier to shoot and work on something than recreate something with wire-frames and then add the imperfections that make things seem lifelike.

"Computers are great at creating flawless imagery," Mario adds, "but I'd rather have Angelina Jolie than Lara Croft. The day that computers are able to create Angelina Jolie is very difficult to foresee." DA+P

Keith Wallington of retouching house Lifeboat Matey

"There's a lot more scope for creativity with digital retouching but I'd still say that it's less skilled than conventional. There are so many tasks that are automated with computers that took a painstaking amount of work with a paintbrush and airbrush, and of course you've got no Undo button when things go wrong. There's too much made about the quality of digital too – if you look at the first ever colour supplement and compare it to the stuff done today, you'll find it's just as good, if not better. While things have got easier, the quality of the end-product hasn't improved at all and in some cases we've taken a step backwards."

Expertise provided by Craig Grannell. You can contact Craig at [e] craig@snubcommunications.com



SECTION **ONE**

Removing facial imperfections

The first chapter in our tutorial focuses on tidying up our model's eyes and skin and removing any distracting elements

Raw photographs are rarely good enough for instant professional use, and so the first section of our project will concentrate on some basic retouching techniques.

We will need to make sure that any imperfections are removed and that the model's skin is absolutely smooth and flawless, using colour matching techniques where necessary.

As they are the focal point of a portrait, we will pay extra attention to the eyes where we will remove any artificial reflections and distractions which are visible in the iris.

Finally, for the purposes of this project, we would like to change the colour of the model's eyes, making them blue and ensuring that they are shiny, crisp and piercing.

Files on disc
The files needed for this section are in the Tutorial\Section 1 folder on the CD.

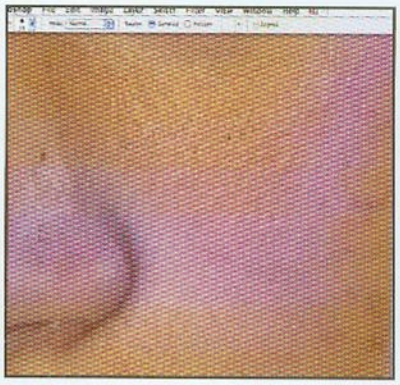
Part 1: Retouching basics

Taking the untouched image of the model from our photo shoot, the first thing we have to do is scrutinise the picture for any imperfections or distracting features...

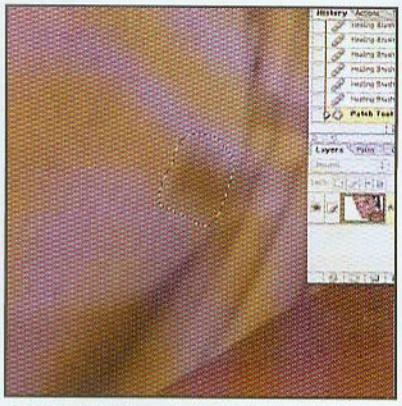
Notes:

- References to the right or left eye are made from the perspective of the model.
- Command keys that are connected by a hyphen need to be pressed at same time.

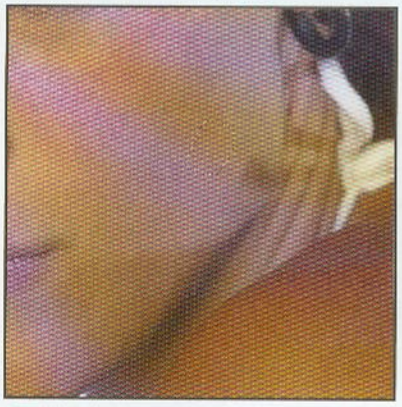
1 Open the file head.tif from the CD. You will need to clean up all blemishes, wrinkles and imperfections from the skin. Also, remove the small bit of frizzy hair at the top of the forehead but ignore the small pores and the distracting shadows on the jaw bone for now.



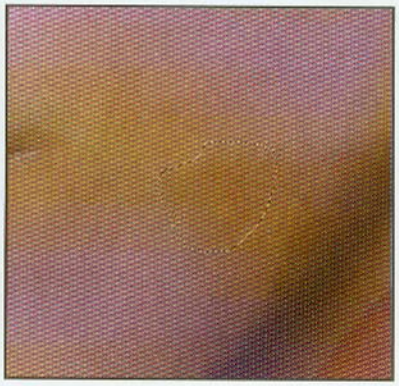
2 Use the Healing brush (J) to remove any imperfections. Zoom in to 100 per cent (Command-Alt-0). Alt-click in the area you want to sample from, then briefly stroke over the area you want to cover. Navigate by pressing the Spacebar and dragging the cursor one window at a time. Use [ ] to decrease or increase the brush size.



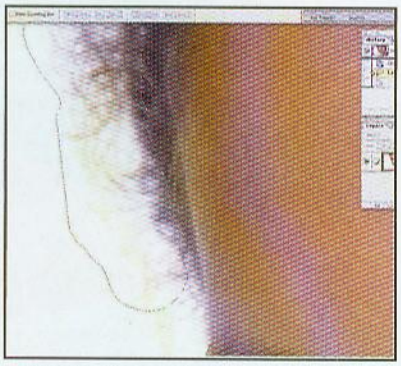
3 Press Shift-J to select the Patch tool. Tick the source in the Option bar and surround the area of shadow in the jaw bone, just like you would with the Lasso tool. Move the cursor into the selection, then drag the selection to the left of the shadow and let go of it.



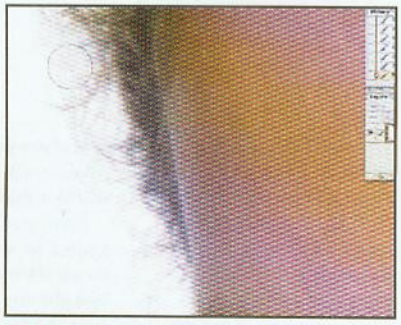
4 The selection now snaps back to where it was created and the shadow has disappeared. Tidy up any remaining areas with the Healing brush. You can quickly switch between the two tools by pressing Shift-J.



5 Use the Patch tool again for the larger shadow area. You will have to use it on sub-sections of the area and pay close attention to what shade you drag the selection to. Be careful not to remove the shadow along the jaw line. Press Shift-J to change to the Healing brush if needed.

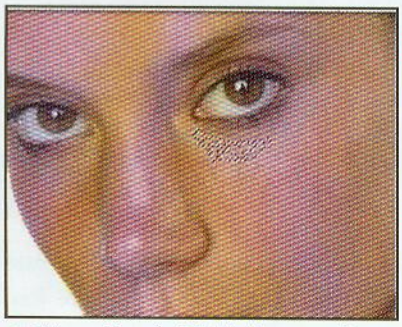


6 Reduce the amount of hair at the top left by making a rough selection around the outer edges. Choose the Move tool (V) and move the cursor into the selection until the scissors show, then press Command-Alt. The cursor changes into two arrows. Drag to the right and press Command-H to hide the selection edges and gain greater control.



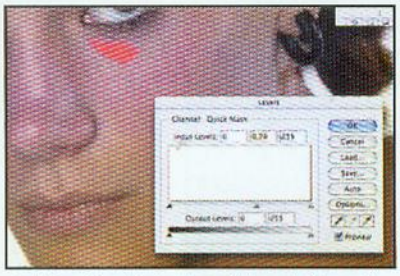
7 Press Command-D to deselect. Change to the Paintbrush (B). Set the mode to Lighten and opacity to 60 per cent. Use a medium-sized, soft brush. Press I for the Eyedropper tool, click in the surrounding white area and paint carefully from the outside to remove frizzy hair. Use the same technique on the hair on the right.

8 Choose the Path tool (P). Draw a precise path where the stray hair meets the face. Continue the path with a rougher selection around stray hair. Press the Load Path As Selection button and feather the selection by two pixels. Press I and sample the area, then B for Paintbrush (Lighten, opacity 100 per cent) and paint to remove stray hair.

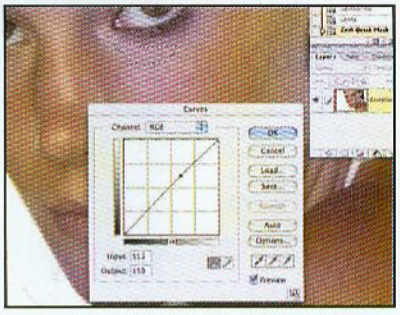


9 You could use the Patch tool to remove the shadow area underneath her left eye, but the outcome isn't perfect. There is another technique you could use which is also useful to know for other purposes. Press W for the Magic Wand tool and set the tolerance to two. Click in the darker pixels in the centre of the shadow area.

10 Press Q to enter Quickmask or click the Quickmask icon in the Tools palette. The selection changes into a patchy-looking mask. Choose Filter>Blur>Gaussian Blur and set the radius to 10 pixels to smudge the mask. Still in Quickmask, press Command-L to bring up the Levels window.



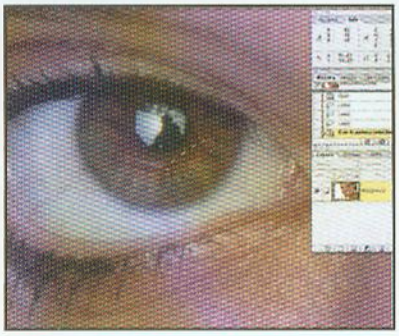
11 Drag the slider to the right to make the mask more opaque. Press OK, then Q to exit Quickmask. Make sure the Info palette is open and press Command-M to bring up the Curves window. Move the cursor outside the Curves window and you will notice that it changes into an Eyedropper tool and the RGB values in the Info palette change according to the position of the cursor.



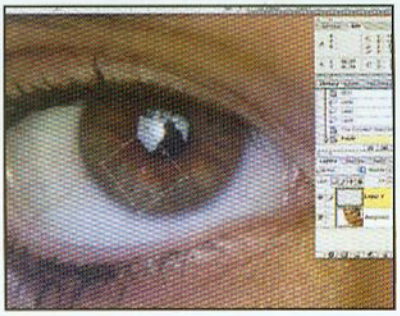
12 With the Curves window still active, press Command and click within the selection area. A point that exactly corresponds to the value at this pixel is now set on the curve. Press Command-H to hide the selection edges, then press the up arrow a couple of times to lighten the selection.

Part 2: Removing reflections in the eye

Remove the reflection of the photographer in the pupil, along with unwanted reflections in the iris…



1 There is a distracting reflection in the iris, just below the pupil. Choose the Lasso tool (L), press Return, type 3 and then press Return again. This has set the feather to 3. Now make a selection next to the reflection that resembles its shape. Press Command-C to copy, then Command-V to paste.



2 Use the Free Transform (Command-T) to move and rotate the layer. When the cursor is a black arrow you can move the whole box over the reflection to cover it. Dragging the corners of the box will rotate the Transform. Press Return to apply it, then Command-E to merge down. Paste twice again to cover the left eye in the same way.

3 Press Shift-M until the Elliptical Marquee tool is selected. Hold Alt-Shift while clicking into the centre of the pupil. Now drag outwards until you reach the outer edge of the pupil. Use the arrow keys to adjust the circle exactly over the pupil. If the selection is either too big or small, go to Select> Modify>Contract/Expand.

4 Now hold Alt (a minus sign will appear) and draw a smaller circle within the pupil as shown. Feather the selection (Command-Alt-D) by three pixels. Select the Eyedropper tool (I) and sample the dark colour of the reflection of the photographer. Hold Alt and press Backspace to fill the selection with the foreground colour you just sampled.

5 You will need to repeat this procedure about three times to entirely fill the selection. Now press M to get the Marquee tool and move into the selection until the cursor changes into an arrow with a rectangle attached. Drag the selection over to the left eye. Since the left eye is slightly bigger, you will have to adjust the selection.

6 Go to Select>Transform Selection and drag the handles so that the selection fits precisely over the pupil. Holding Shift while dragging the corner handles will change the selection proportionally. Feather the selection by about 2 pixels and then press Alt and Backspace until the the area has been entirely filled. >

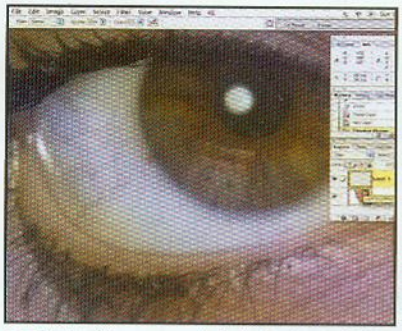
Part 3: Removing red veins

Before we change the colour of the eyes, we need to tidy up the whole eye area...

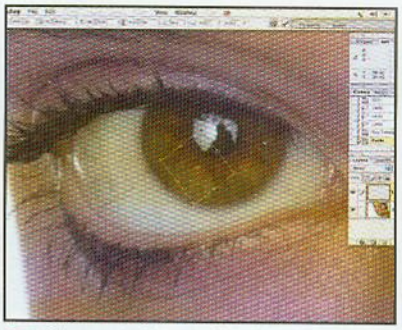
Retouching tools

With the Healing brush and Patch tool, *Photoshop 7* has improved retouching tasks such as removing blemishes, dirt, dust and scratches immensely. These new tools differ from the previous Rubber Stamp tool in that they are able to assess the area surrounding the dirt spot and remove the blemish while still maintaining the overall texture, lighting and shading of the area.

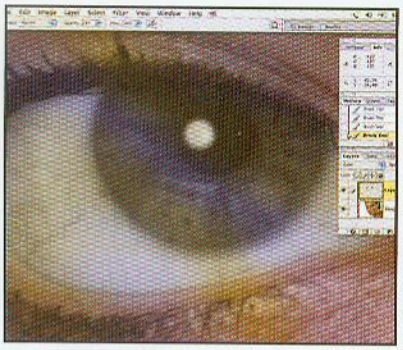
The Patch tool offers additional freedom in that any type of selection method can be used with it. Once the selection outline is ready, just choose the Patch tool from the Tools palette and apply it as necessary.



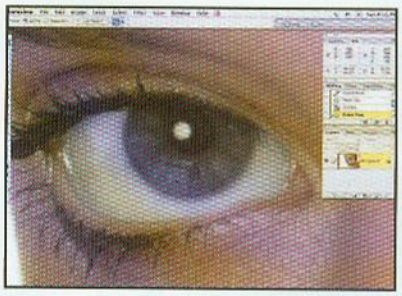
1 Each of the eyes needs to be desaturated. This will get rid of the red in the veins and prepare the iris to be changed to blue. Create a new layer and change the Blending mode to Colour. Press D to set the foreground and background colours to default black and white. Now zoom into the right eye by 300 per cent.



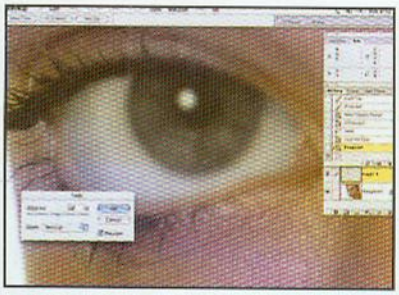
2 Choose a medium-sized brush and set the opacity to 100 per cent. Now, carefully paint over the white areas of the eye, the iris and the pupil. Remember that you can quickly increase or decrease the brush size simply by pressing [ ]. In the Info palette, you can see how all the RGB values change to the same value.



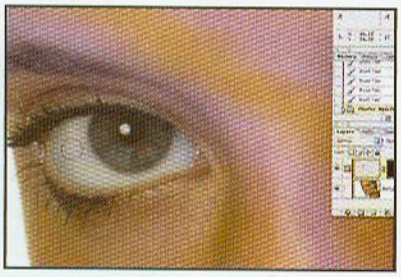
3 You can use the Eraser tool (E) if you have gone too far. You also might want to use a smaller brush and lower opacity towards the edge of the eyes to create a more natural effect. Once you are happy with the outcome, press Command-E to merge the layer with the background layer.



4 Now use a very small Healing brush (J) to tidy up the veins. Change the mode to Lighten. For the white reflection in the left side of the right eye, usé the Patch tool (Shift-J). Surround the area and drag downwards. The result will be slightly patchy, no matter how precise you are, but you can adjust this in the next step.



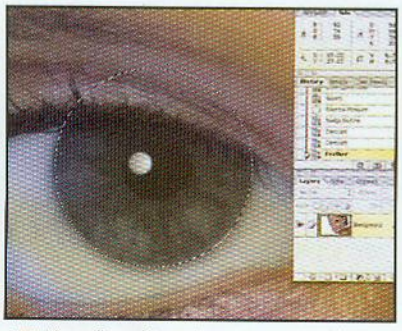
5 Make a loose selection around the left and right eye, then press Command-J. This will make a layer via copy. Now apply Filter>Pixellate>Fragment to this layer. Go to Edit>Fade Fragment and bring the slider down until the effect is very subtle. Concentrate on the white eye area when you're trying to judge this.



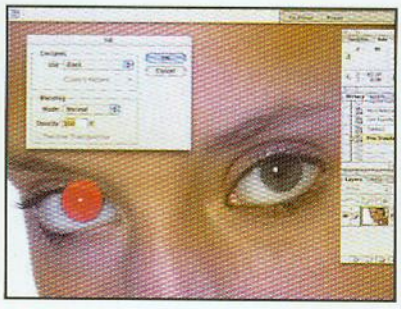
6 Apply Filter>Blur>Gaussian Blur with a radius of about 0.6. Create a layer mask. Press D to set the colours to default, then Alt-Backspace to fill the mask with black to undo the filters you have just applied. Choose a paintbrush (B), press X to change the foreground colour to white and paint over the eye white. Use sliders to bring down the effect, then press Command-E to apply the layer mask.

Part 4: Changing the eye colour

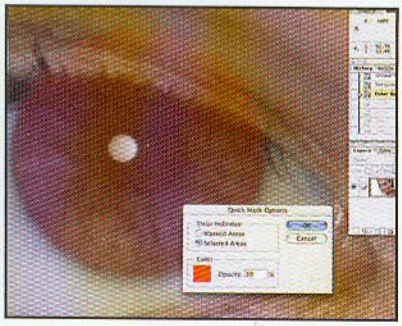
Now we need to make precise selections and use adjustment layers to brighten up the eyes and change their colour...



1 You will need to create a very precise selection to change the eye colour. Start on the right eye, press M and, by holding Alt-Shift, pull a circle selection out until it covers the iris. Adjust the selection with the techniques described in previous steps, then press Q to enter the Quickmask.



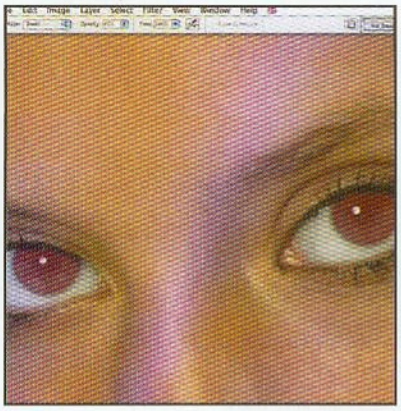
2 Still in Quickmask mode, choose the Lasso (L) tool and create a new selection around the left eye. Being in Quickmask mode enables you to use the same selection adjustment techniques without losing the selection of the right eye. When you are happy with your selection, simply fill it with a 100 per cent black colour.



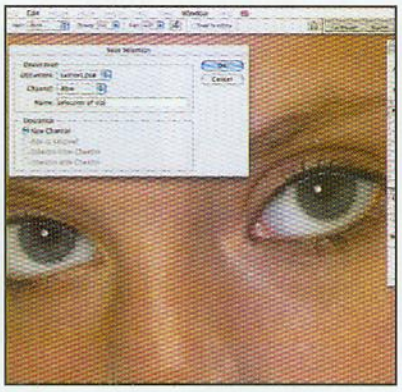
3 Use Filter>Blur>Gaussian Blur of 3 pixels on the Quickmask to feather the selection. Now double-click on the Quickmask icon in the Tools palette and change the opacity to 10 per cent. Select the Eraser (E) and choose a small, soft brush that roughly matches the width of the eyelashes.

Quickmask tool

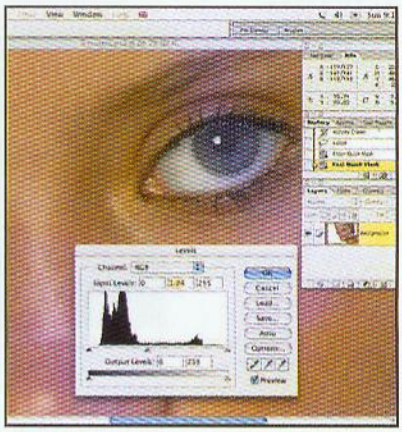
As the name implies, this is a very fast way to create masks. What is often overlooked is the fact that any type of filter can be applied to a Quickmask. For instance, if you want to feather your selection borders you have two options. You can go to Select>Feather or change to Quickmask mode and apply a Gaussian Blur to the Quickmask. Darkening or lightening the Quickmask, as we do in this chapter, will change the opacity of the mask and therefore the effect it will have on the object the selection will be applied to. The best example is to apply a gradient to a Quickmask to use it to fade in or fade out an object.



4 Erase over the lashes in strokes. The upper section of the Quickmask above the lashes can be removed using a higher opacity, larger-sized brush. Now press Q to exit the Quickmask, then check that your selection only covers the iris and the pupil, not the lashes.

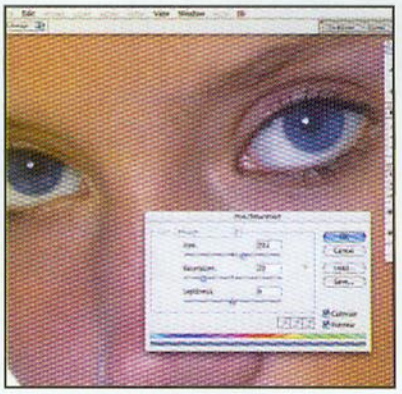


5 Save the selection – go to Select>Save Selection. Name it 'Selection of Iris'. Leave the other settings as they are. The left eye is darker than the right eye so remove the mask over the right eye by holding down Alt and dragging the Lasso tool around the right eye selection. Now zoom into the image but make sure you can still see both eyes.

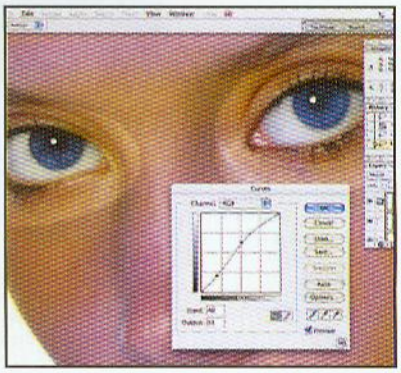


6 Press Command-L to bring up the Levels window and drag the brightness slider to the left until both eyes have roughly the same brightness. Press OK. Now go to Select>Load Selection and choose Selection of Iris.

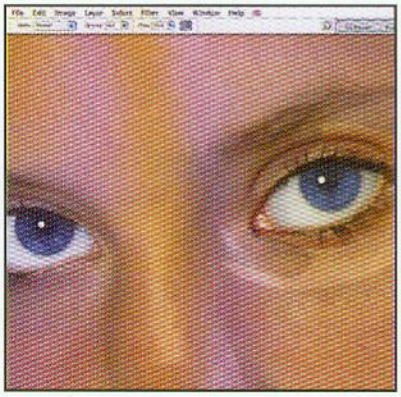
7 The eyes look a little washed out. With the selection active, go to Filter>Sharpen>Unsharp Mask. Choose an amount of about 120 per cent, a radius of 4 and set the Threshold to 2. The eyes should now look much crisper.



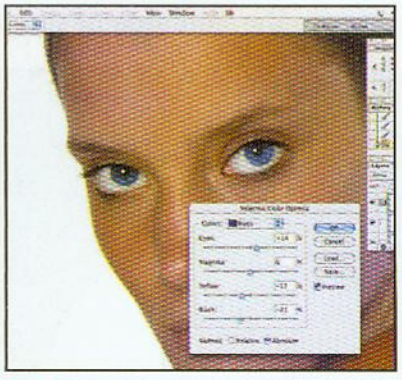
8 Click the third button from the right in the Layers palette and choose a Hue/Saturation adjustment layer. Check the Colourise box and pull the Hue slider to the right, up to about 222. Set the saturation to 20 and press OK.



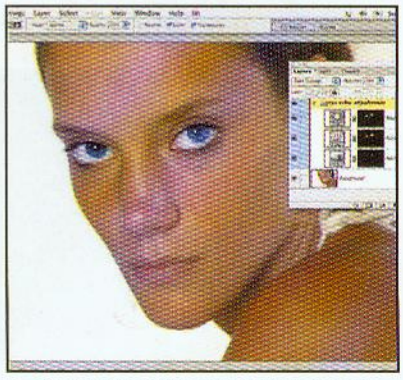
9 Make a loose selection around both eyes. Create a Curves adjustment layer and increase the contrast by lifting the midtones and pulling the shadows down slightly, as shown above. This not only increases the contrast within the iris but also brightens the whites of the eyes.



10 Choose the Paintbrush (B) and press D, then X to set the foreground colour to white. Carefully paint around the eyes to reduce the effect to the eye only. If you think the that the eyes look too unnatural, reduce the opacity of the Curves adjustment layer.



11 The colour and the crispness of the eyes need to be adjusted. Create a Selective Colour adjustment layer on top of the other layers. Choose Blues from the drop-down menu and pull the Cyan slider to the right and the Yellow slider to the left as shown. Now Choose Blacks from the drop-down menu and pull the Blacks slider to about 10.



12 Go to Layer>New>Layer Set and name it 'Eye Colour Adjustments'. Drag all three underlying layers into the layer set and check that they are still in the right order. Adjustment layers are not final and give you the freedom to tweak colours when needed, but they can also clutter the Layers palette. Layer sets are a handy option to help avoid this.

Part 5: Techniques to remove large areas of imperfections

With only a small area to sample, we will have to create large sections of the neck from scratch in order to improve the image …

Selection methods

There are various ways to achieve the same thing with selection methods. Using the Lasso and Marquee tools is a very fast and direct way of making selections but look at the Options bar and you will see four icons that can give you even further control. The icons from left to right (along with their modifier keys) have the following effects:

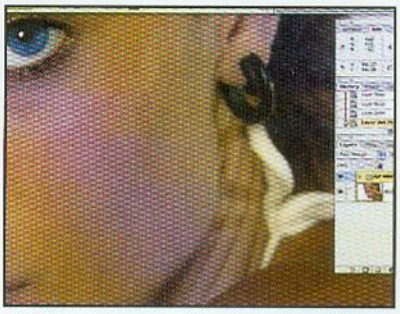
1. Clicking this will remove the previous selection and you will set an entirely new selection

2. Will add to the previous selection (Shift key)

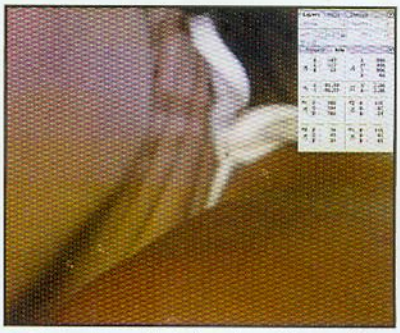
3. Subtracts from the previous selection (hold down Alt and drag from within)

4. Intersects with the current selection (Shift-Alt-drag).

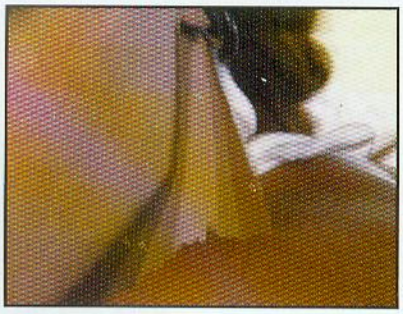
As direct as these selection methods are, they may get confusing. If you aren't sure what's selected and what isn't, briefly switch to Quickmask mode. Depending on the Quickmask settings you've set (whether colour indicates the masked or selected areas), you can quickly see which area is selected or not.



1 In order to remove the unflattering wrinkles on the neck you could use the Healing brush and Patch tool combination, but that would require a lot of time and wouldn't produce a very satisfactory result. Imagine what the area would look like without any imperfections…

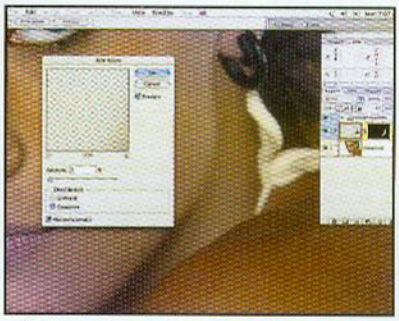


2 Instead, investigate the colours that constitute the area. For illustration, we've created colour samples. We've also created a fifth colour that is slightly darker than colour sample 4. You are now going to use these to paint an entirely new neck.

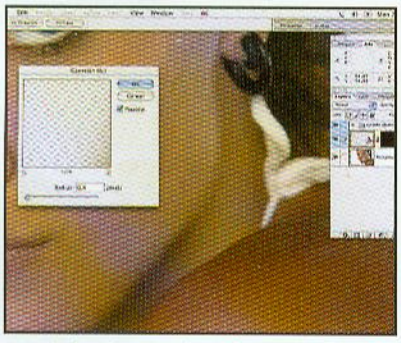


3 Create a new layer and press B for the Paintbrush. At the right of the Option bar, press the Airbrush icon. Set the opacity to 60 per cent and choose a soft, medium-sized brush. Paint a very abstract, generous version of the neck over the neck area. Use the illustration above as a guideline.

4 Apply a Gaussian Blur with a radius of 40. Click the Layer Mask icon, which is the second from the left in the Layers palette. Use a soft, black brush to remove from the mask and white to add to the mask. This will require a lot of attention to detail. You can Alt-click the layer mask to see the mask only or Shift-click to temporarily switch it off.



5 The neck section has a very different texture to the rest of the skin. Click the icon to the left of the layer mask, then go to Filter>Noise>Add Noise. Check the Monochromatic and Gaussian boxes and choose 3 for the amount. Press OK. If you find this is too much, go to Edit>Fade Noise and adjust.

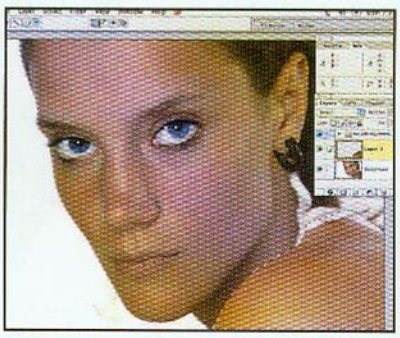


6 Apply a Gaussian Blur to the Noise you just added. Go to Filer>Blur>Gaussian Blur and choose a radius of about 0.5 pixels. The neck is still smoother than the rest of the skin, but this mismatch will disappear after smoothing the skin.

Part 6: Matching skin tones

We are going to use a path selection, blending modes and Colour Balance to match the skin tone of the shoulder to the skin tone of the face…

1 The skin of the shoulder needs to be toned down to match the face. Create a path along the shoulder and the top of the back. Where the path meets the bikini, do a more generous, less neat path. Press Command-^ to activate the selection and feather it by 2. Press Command-J to make a layer via copy. Set the Blending mode to Screen.



2 Bring the opacity of the new layer down to about 80. Now hold Command and click in the layer to make a selection of the layer, then press Command-E to merge down. With the selection still active, click the Adjustment Layer icon and create a Colour Balance adjustment layer.

3 The shoulder area contains more yellow and green than the skin colour of the face. Check the Preserve Luminosity box, then adjust the slider as follows: Shadows: -25, 0, 0; Midtones: -8, -3, 13; Highlights: -10, -12, 11. Now add a layer mask to the Colour Balance adjustment layer and paint in the white bikini areas.

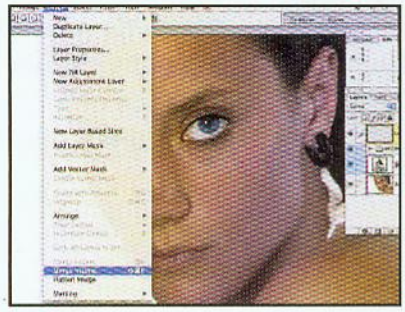
Part 7: Creating flawless skin over large areas

Filters, blending of layers and a layer mask are going to be used to create smooth and healthy-looking skin...

Filter control

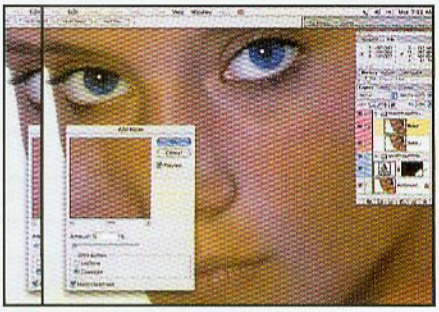
Normally when you apply a filter the control you have is when you change the settings in the dialog box or immediately after by choosing Fade from the Edit menu. A great way of maintaining control until you finalise your image is to apply it to a layer that contains all the elements and adjustments. Do this by creating a new layer, holding Alt and choosing Merge Visible from the Layers menu. This process is called Stamp Visible. You can now apply the filter and adjust the effect whenever you like.

Even better, you can duplicate the Stamped Visible layer a couple of times and apply various filters to the different layers, giving you the opportunity to blend these filters with a lot more freedom.



1 Create a new layer and make sure it is on top of all the other layers. Hold Alt and go to Layer>Merge Visible. This will merge all underlying layers into a new layer, without destroying the actual layers. Hold Alt long enough for the system to calculate the information, otherwise you will merge with the layers underneath.

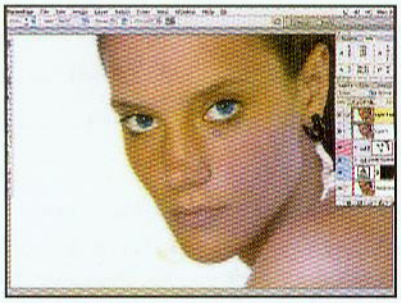
2 Press Command-J twice. Double-click the top layer and call it 'Noise' and name the one underneath 'Gaussian Blur'. Create a new layer set and name it 'Complexion Adjustments'. Drag the two new layers into the layer set, then click on the Noise layer to activate it.



3 Go to Filter>Noise>Add Noise and set the amount to 5, then check the Gaussian and Monochromatic boxes. Don't worry about the unnatural effect this will create for the time being. Switch off the Noise layer by clicking on the Eye icon in the Layers palette. Now click on the Gaussian Blur layer to activate it.

4 Go to Filter>Noise>Dust & Scratches. Set the amount and threshold to 9. Go to Filter>Blur>Gaussian Blur and set the radius to 20. Activate the Noise layer and set its opacity to about 60 per cent. Lower the opacity of the Gaussian Blur and Dust & Scratches layers to blend with the Noise layer.

5 Now activate the Complexion Adjustments layer set and apply a layer mask to it. You won't lose the layers within it by doing this. Paint with black to remove the adjustments from all of the features that require details, such as the eyes, the mouth, the hair and so on.

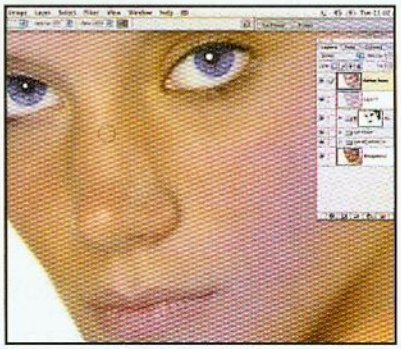


6 Create a new layer. Make sure it is on top of all the other layers. Hold Alt and go to Layer>Merge Visible. Change the Blending mode to Screen, then lower the opacity to about 20 per cent. Press Command-J, then Command-E to merge down to get healthy-looking skin. At this point, save the file for a later exercise.

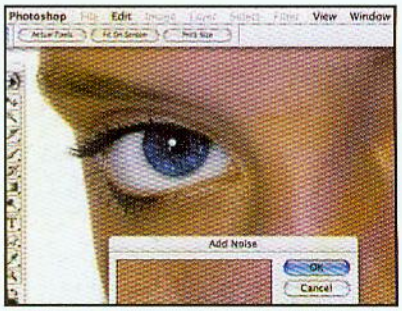
Part 8: Smoothing the face

A combination of the Paintbrush, Eyedropper tool and blending modes is going to be used...

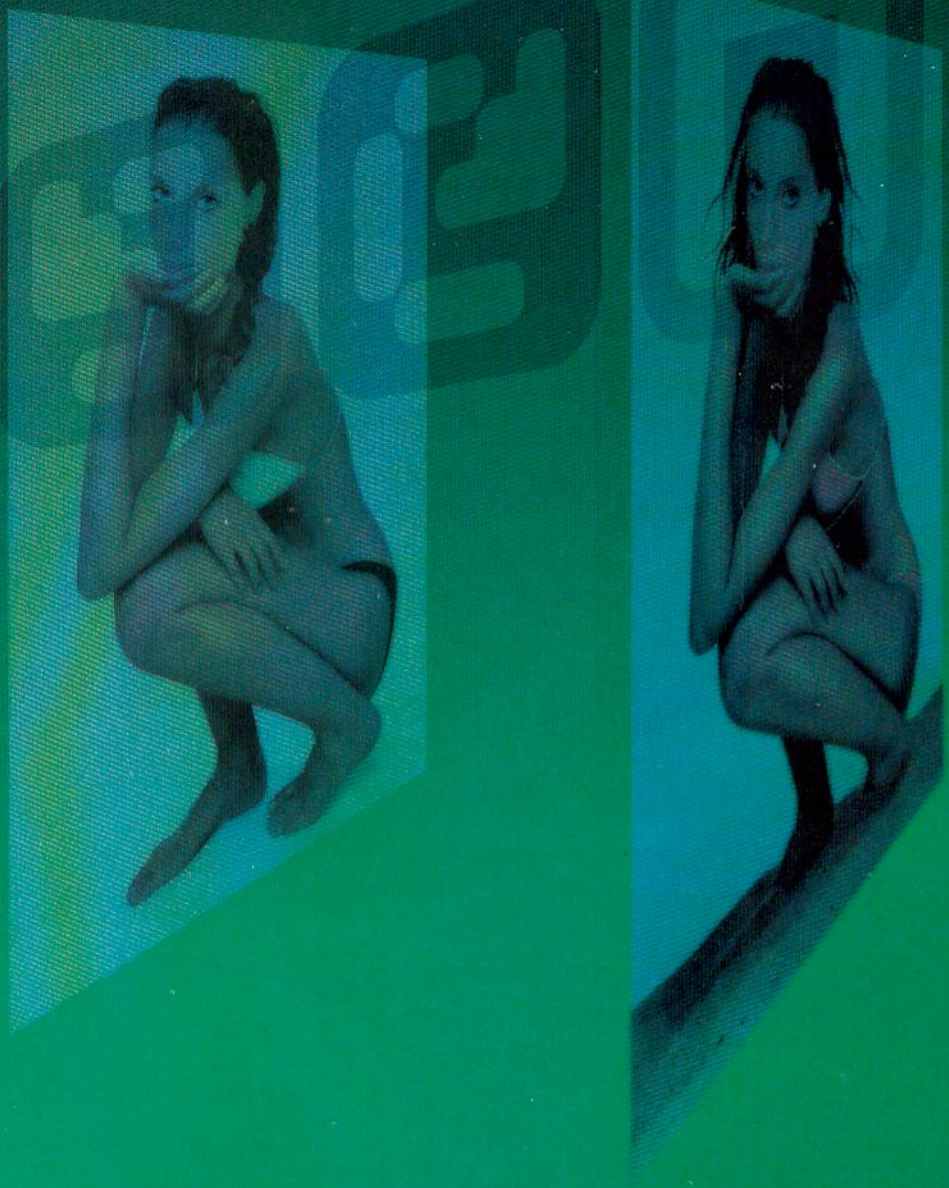
1 You will need to get rid of the shininess of the nose and other areas. Create a new layer, hold Alt and go to Layer>Merge Visible. Create a new layer and set the Blending mode to Darken. Now choose a soft, small brush and set the opacity to about 50 per cent.



2 Move over the shiny area on the nose, hold down Alt (the Paintbrush will temporarily change into the Eyedropper) and sample just next to the shininess. Now paint over it. Do so in all areas that need darkening and name the layer 'Darken'.



3 Create another new layer and call it 'Lighten'. Change the Blending mode to Lighten, then use the same technique as before, only this time you will concentrate on the darker areas. The image is now finished so you just need to do a final check around it at 100 per cent to see if there are any faults or imperfections. CS+P



SECTION **TWO**

Transforming the face

Now we have a clean and blemish-free image, we can start work on altering the model's features to get the look we want...

After ironing out all of the imperfections and distracting elements from our raw photograph in the previous chapter, we can now start work on altering the features of the model's face to achieve a perfect look.

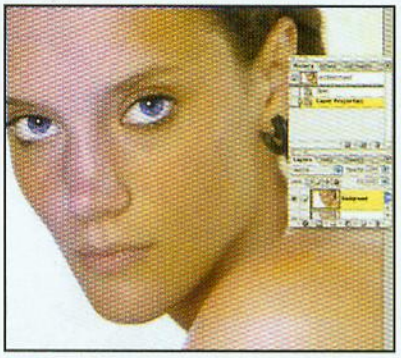
As we've already tweaked the eyes, the next step is to focus on the model's other key features – we'll be making her nose straighter and smaller, her ears smaller and her mouth fuller, adding a slight smile. We will also need to enhance the eyes by working on the eyebrows and the eyelashes.

While we're making some major adjustments to our model's facial features, remember that the trick to this kind of *Photoshop* work is to be subtle – our final image should look as natural and untouched as possible. >

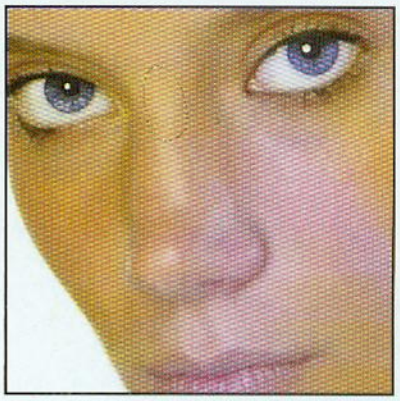
Files on disc
The files needed to complete this tutorial are in the Section 2 folder on your cover CD.

Part 1: The nose job

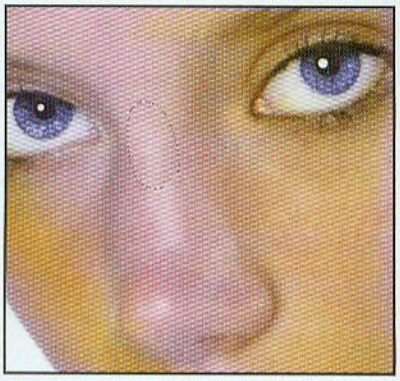
A lot of Free Transform and duplication is applied here to completely change the shape of the nose...



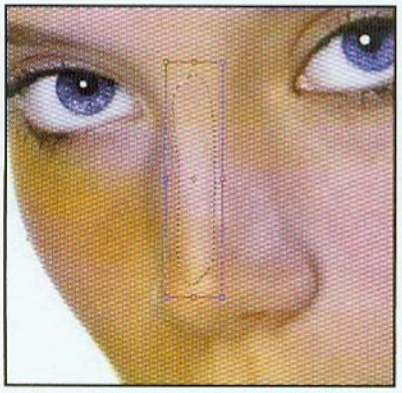
1 If you concentrate on the nose, you will notice that what actually defines its shape are the reflections on its bridge. We want to transform the nose into a perfectly straight shape and remove its tip. In order to do this, we need to change the position of the reflection, straighten it and move the shadow accordingly. After that, it will be necessary to rotate the entire nose slightly.



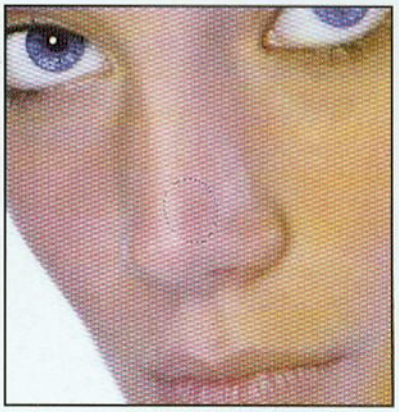
2 The first step is to straighten the shininess of the nose. Open the file section01 and study the nose. In the section between the eyes and a bit further down is a part of reflection that is nice and straight. You are going to use this section and stretch it down to the tip of the nose.



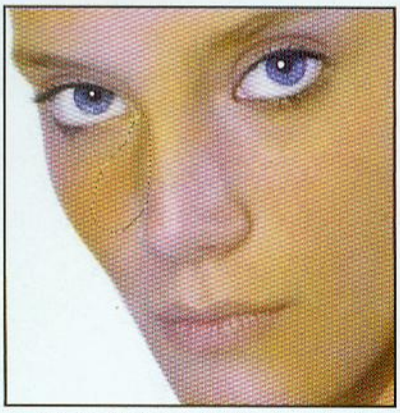
3 Choose the Lasso tool (L), press Return, type 8 and hit Return again. Now make a selection as shown here. Hide the selection (Command-H), then change to the Move tool (V), move the cursor within the selection and press Alt-Command. When the cursor changes into two arrows, drag carefully down for about two or three pixels.



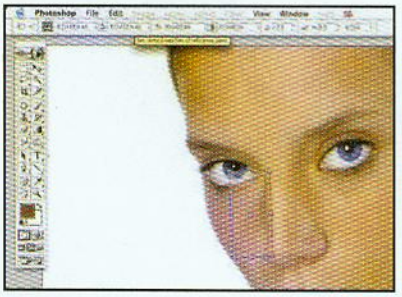
4 Select Command-T for Free Transform and drag the bottom handle downwards until it reaches the tip of the nose. Use the Left arrow key to nudge the Transform to the left so that it aligns with the natural features again. Now deselect and change to the Patch tool (J). Remove the bit of reflection that has been created from the Transform.



5 Do another Patch tool selection to the right of the tip of the nose where three lightness levels seem to meet and then drag the selection upwards. After you have applied the Patch tool, the effect will be a little bit too strong. Go to Edit>Fade Patch Tool and drag the slider down to about 60 per cent.

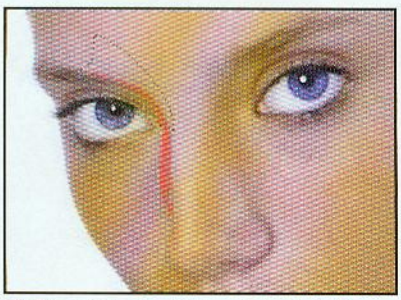


6 The shadow to the left to the nose makes the nose appear to be wider. To narrow it, you will have to move that shadow towards the nose. Change to the Lasso tool and make sure it is still feathered by eight pixels. Now make a selection that includes the whole continuous shadow area.

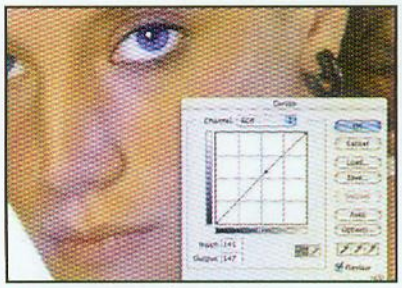


7 Press V for the Move tool, move the cursor in until you see two arrows and drag to the right or use the Right arrow key. Only press the arrow key about three times, then press Command-T to get the Free Transform and rotate so that the shadow aligns with the top bit of shadow again.

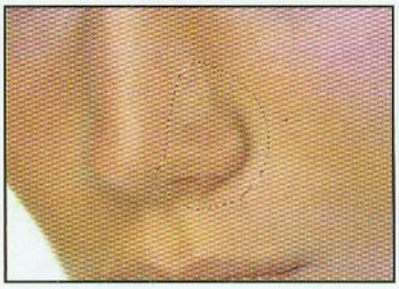
8 Now you are going to lighten the shadow. Use the technique you used earlier: press W for the Magic Wand tool, make sure it has a tolerance of 2, then click in the darkest part of the shadow area. As a result, the selection will have gone too far up in the eyebrow area.



9 Press Q to enter Quickmask, change to the Lasso tool (L) and make a selection of the upper bit that ends at about the height of the eyes. Press the Backspace key to delete that section. Deselect and apply a Gaussian Blur followed by Levels to the Quickmask, as we did earlier.



10 Press Q to exit the Quickmask. Bring up the Curves by pressing Command-M and then Command-click in the darkest area of the selection. After the point has been created, use the Up arrow key to nudge upwards once or twice. Zoom in to inspect the result before pressing OK.

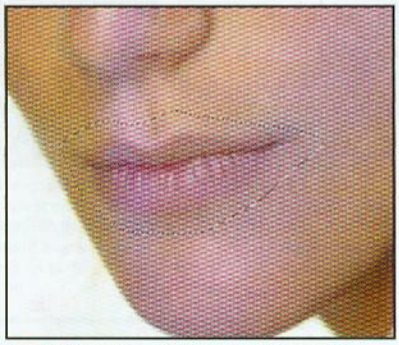


11 This is a very laborious process but it is necessary because the shadows in this area are very sensitive and they define the shape of the nose. Make a selection of the left side of the nose as shown. Change to the Move tool (V) and duplicate the area to the left as before.

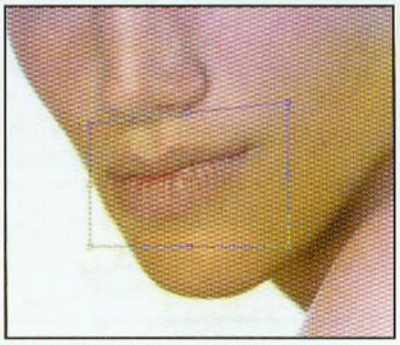
12 Make a wide selection around the nose as shown. Press V and duplicate by only one pixel. This ensures that the Free Transform which follows duplicates as well. Now Command-T again and move the left and right handles inwards. Use the Left arrow key to move the whole Transform slightly to the left.

Part 2: Changing the mouth

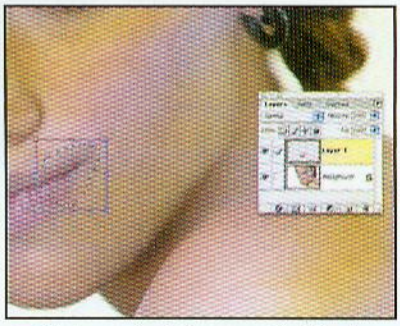
The Liquify and Pinch filters will help to make the lips fuller and put a smile on our model's face...



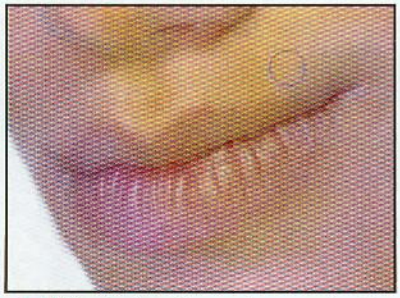
1 Make a wide selection around the mouth. Make sure it resembles the shape of the mouth and press Command-J to copy the selection into a new layer. Press Command-T, hold Shift and drag the corner handles outwards. Holding the Shift key down transforms the selection proportionally.



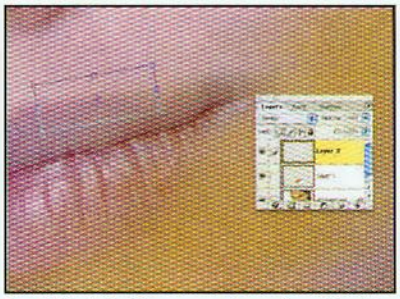
2 Use the arrow keys to move the Transform around until it looks natural. Before applying the Transform, drag the bottom handle down to make the lips look fuller. Still with the Transform active, press Command-Shift and drag the top right handle up to distort the selection slightly.



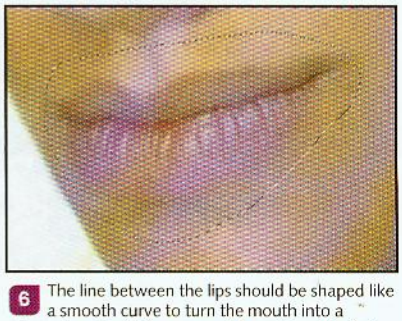
3 Make a small selection around the left outer area of the lips. Press V for the Move tool, move into the selection until two arrows show and move carefully upwards. Press Command-T and rotate the lips slightly up. Use the arrow keys to adjust the lines of the lips and do the same on the right side. The model is now smiling.



4 All the transformations and movements we've applied will have created slightly patchy areas that look unnatural so tidy everything up by using either the Healing brush or applying a layer mask. If you decide to apply a layer mask, be aware that you might paint through the underlying mouth.



5 If the lip borders are now too soft, switch off the top layer and make a selection around the edge of the original lips. Use Command-C and Command-V to copy and paste. With the new layer on top of the fuller lips layers, adjust with Free Transform and press Command-E to merge down.



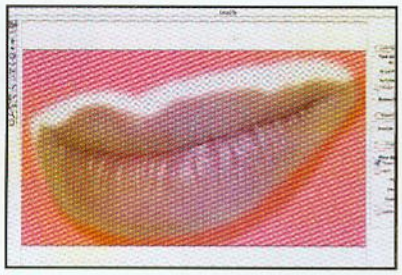
6 The line between the lips should be shaped like a smooth curve to turn the mouth into a pleasant smile. At the moment it contains bits that go upwards and downwards. Zoom into the image at 100 per cent and make a loose selection around the whole mouth. Go to Filter>Liquify or press Command-Shift-X.

Part 2: Changing the mouth continued...

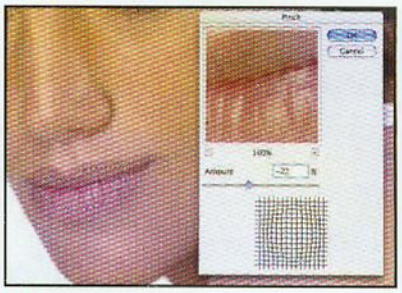
Using a variety of filters and tools we will continue to sculpt our model's lips for a fuller, smiling look...

Free Transform tool

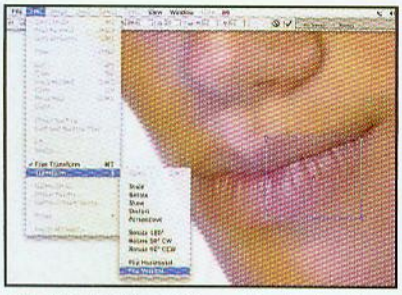
The Free Transform tool is very powerful. You can use it in a highly precise way by typing numbers into the Options bar, allowing you to change the position, scale, rotation or shear of the object numerically. Alternatively, you can use it more intuitively by dragging and pulling the handles of the Free Transform window. When the Free Transform window is visible, a quick way to change between the transformation methods is to hold Ctrl and then click within the window.



7 Make sure the Warp tool is selected (the tool at the top of the palette). Choose a brush of about 160 that covers nearly the whole inside area of the mouth. Now move it over the area and carefully pull downwards or upwards, depending on the shape of the curve. Use a small brush to adjust smaller areas.

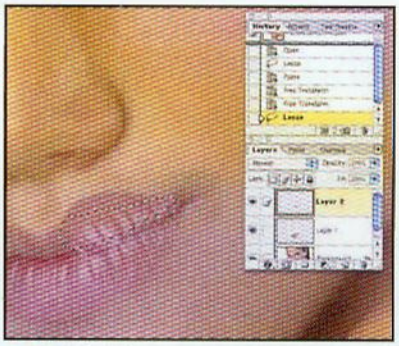


8 The lips need to have more volume and should look even fuller so make a loose selection within the inside of the lips. Go to Filter>Distort> Pinch and choose a setting of about -20. Make another selection within the upper lip only and press Command-F to reapply the same Pinch filter.

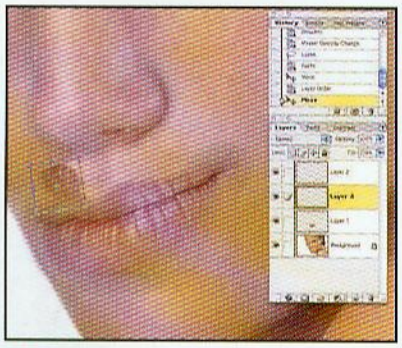


9 The upper lip contains much less texture than the lower lip. To create texture on the upper lip, make a selection around half of the lower lip, then press Command-C followed by Command-V to paste. Now press Command-T and go to Edit> Transform>Flip Vertical.

10 Rotate the new layer so that it fits within half of the upper lip. Lower the opacity to about 30 per cent, switch off the new layer and make a selection around the upper lip in the layer underneath. Now feather by four pixels.



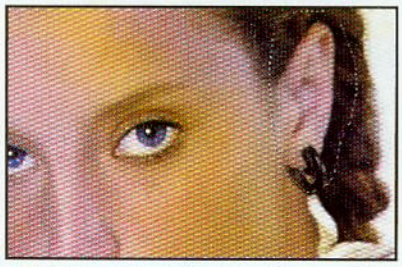
11 Switch the layer containing the texture on again. Press Command-Shift-I to invert the selection and then press the Backspace key to delete. Now adjust the opacity to a level where the effect looks natural.



12 Do the same with the other half of the upper lip. If the texture starts to look wrong or goes in the wrong direction, use the Liquify filter to help you. Make sure that the upper lip has less texture than the lower lip.

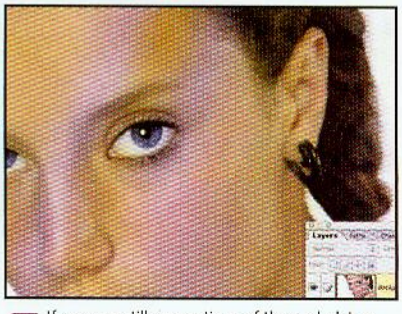
Part 3: Transforming the ear

We'll reduce the size of the ear in this section...



1 Make a wide selection around the ear and the earring, including the whole section of hair above the ear. Now press Command-J to duplicate the selection into a new layer. Switch the layer off by clicking the Eye icon on the left in the Layers palette. Click on the layer underneath and remove all sections of the ear by duplicating hair over it.

2 Click back on the top layer to activate it and press Command-T to get the Free Transform window. Hold Shift and scale the ear down until it looks normal size. Zoom in and while the Free Transform window is still active, align the layer with the face. Pay particular attention to the hair direction just before the ear.



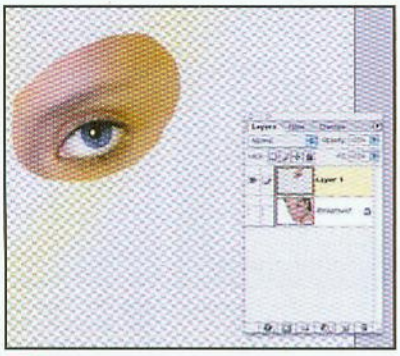
3 If you can still see sections of the underlying ear or earring coming through, activate the layer underneath and use the Clone stamp or Healing brush to tidy the area. When everything looks okay, press Command-E to merge down.

Part 4: Improving eyebrows

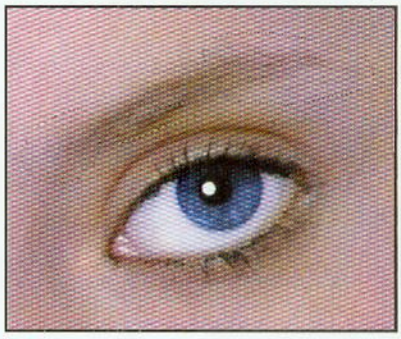
In this part, we are going to create custom-made brushes to paint beautifully shaped and sculpted eyebrows...

The Move tool

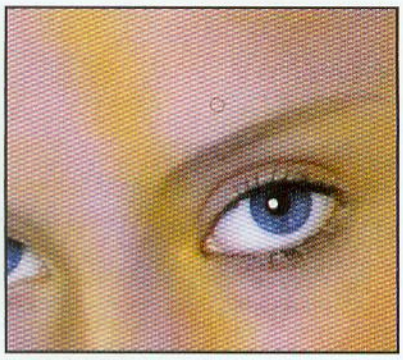
Using the Move tool to duplicate sections of an image or even the entire image might seem like a very simplistic process, but it is a very fast and efficient way to copy or lengthen areas. It replaces the more cumbersome procedure of copying, pasting, adjusting and merging a selection and it is much more immediate in its application.



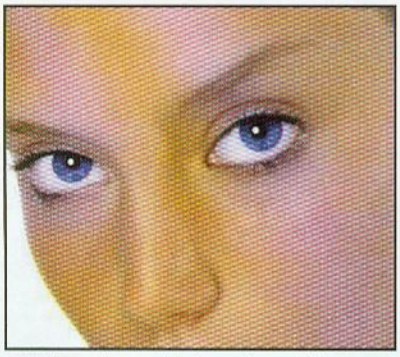
1 We need to improve the overall shape of the left eyebrow first. We can lengthen it and improve the curve of the shape. To be on the safe side, make a wide selection around the left eyebrow and Command-J into a new layer. This means you can use a layer mask to undo unwanted results.



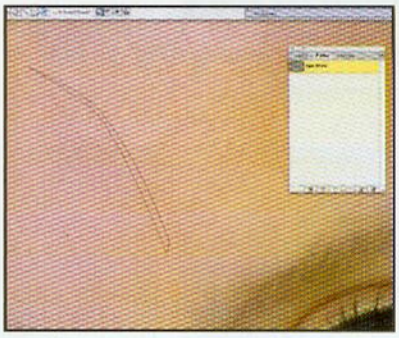
2 Use the techniques of duplicating and transforming as we have done before. The highlighted areas are the ones that need to be transformed. Remember that while you're in the Free Transform window, you can press Ctrl and click into the Transform window, enabling you to quickly switch between the options.



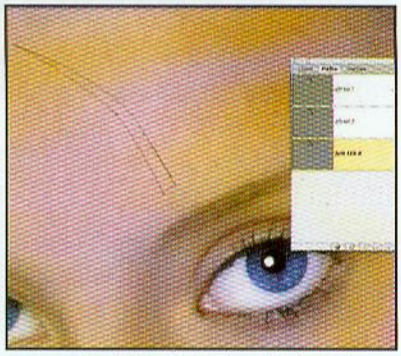
3 After you've corrected the shape of the left eyebrow, tidy up any stray eyebrow elements. Use the Clone stamp here to avoid smudging the eye area. Choose a soft brush at about 50 per cent opacity and go around the edges, removing any stray bits.



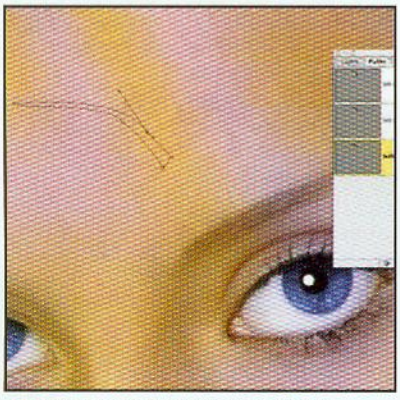
4 The eyebrows still give a rather untidy impression because they go in all directions. You need to smooth the original eyebrows and then paint beautifully straight replacements. For this exercise it's going to be much easier if we create an eyebrow-shaped brush.



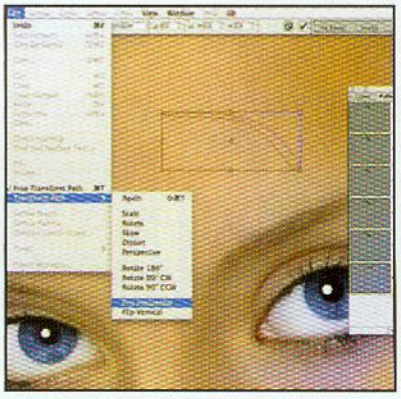
5 The first step is to create a single eyebrow with the Pen tool. Press P for the Path tool and draw a large path resembling the shape of an eyebrow, including a wider bit at the bottom and a curve towards the top. To make it easier for yourself, make it much larger than the normal size of the eyebrow.



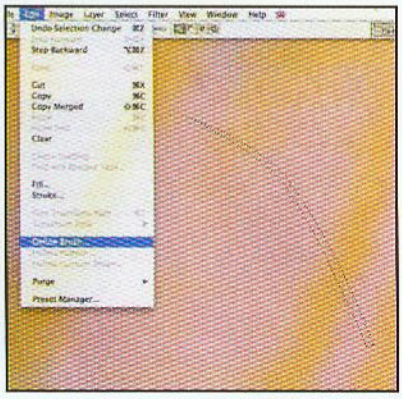
6 Double-click on the Work path in the Paths palette and name it 'Left Tilt 1'. Duplicate the path by choosing Duplicate from the Palette window drop-down menu and call it 'Left Tilt 2'. Duplicate the path once more and this time name it 'Left Tilt 3'.



7 Click on Left Tilt 2 and change the path slightly. Give it a different angle and slightly different shape by dragging the anchor points and pulling the curves, but don't forget that you have an eyebrow shape in mind. Now click on Left Tilt 3. Create a different path to Left Tilt 1 and Left Tilt 2.



8 Duplicate each of the Left Tilt layers again and name them 'Right Tilt', followed by the same numbers. You should now have six paths. Click on Right Tilt 1 and press Command-T. Go to Edit>Transform>Flip Horizontal, then do the same with the remaining two Right Tilt paths.



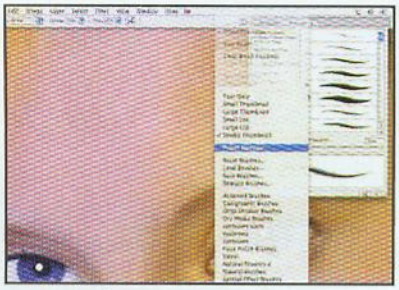
9 Make a selection from Left Tilt 1 by clicking the third from left icon in the Paths palette. Feather the selection by one pixel, then go to Edit>Define Brush. Call it 'Left Tilt 1'. Deselect and choose the next path, repeat the procedure and call it 'Left Tilt 2'. Do the same with the other paths.

Part 5: Setting brush presets

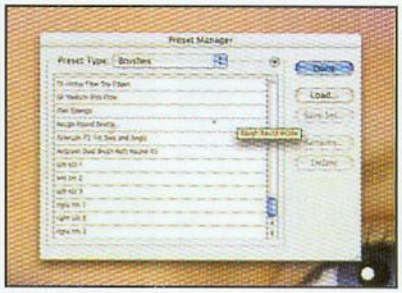
Before using our newly created brushes, we're going to make the following steps easier by creating a Brush preset...

Saving Brushes

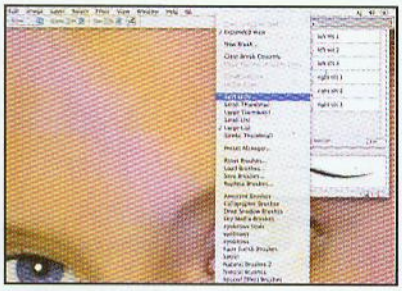
Photoshop 7 provides you with efficient options to save your palettes. A quick way to save a brush, for instance, is to move over an empty slot in the Brush palette, wait until it changes into a paint bucket and then click. The New Brush window will come up and you can save your brush. Bear in mind that saving the brush as a Brush preset will only save certain settings but not, for instance, the opacity and flow of the brush. If you want to keep those, you will need to save your brush as a Tool preset.



1 Press B for Paintbrush, then click on the Brushes palette next to the File Browser. Collapse the small arrow to the right of the word Brushes in the tab and select the Preset Manager. Change the Preset Type to Brushes, then find your new brushes by scrolling down to the end of the list.



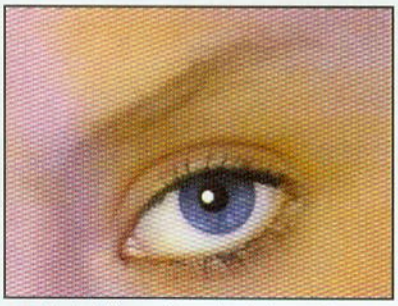
2 Click once on any brush, then press Command-A to select all of the brushes in the Preset Manager. Now Shift-click on each of your new brushes to deselect them, then press Delete. If the window looks empty, don't worry – you will find your brushes if you scroll up again.



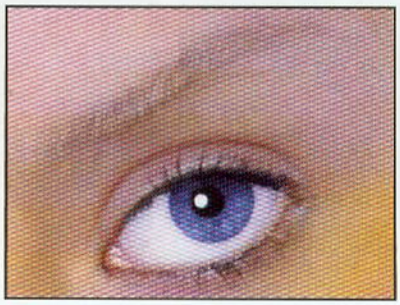
3 Press Done and click on the Brushes palette next to the File Browser. Only the brushes you defined are listed. You can change the icons by collapsing the arrow again and choosing Text Only, Small List and so on. You can reset your brushes by collapsing the arrow and choosing Reset Brushes.

Part 6: Painting eyebrows

In this step, we'll make careful use of spacing and other settings to add eyebrows to our model...

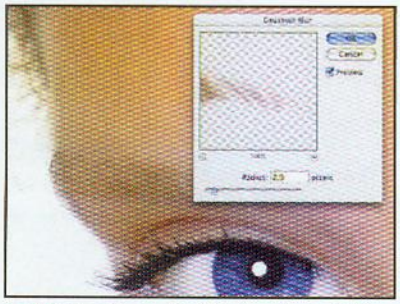


1 First of all, smooth out the darker patches on the eyebrow and prepare a good working ground. To do this, create a new layer and choose one of your left tilt brushes. Now zoom in to the eyebrow. Hold Alt and colour sample a skin colour from just outside the eyebrow.

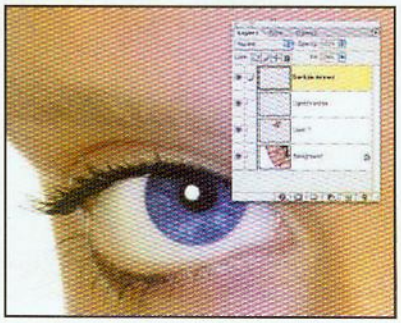


2 Paint carefully with the Eyebrow brush. Concentrate in particular on dark, patchy areas and make the eyebrows look more separated. Keep sampling from the skin colour either below or above the eyebrow while holding down Alt. The eyebrow should slowly lighten and look more continuous.

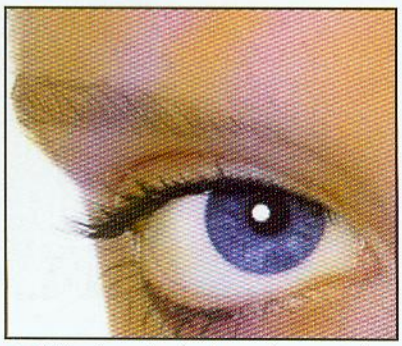
3 Keep changing between your three preset brushes to create a natural shape. Remember that you can also use the square brackets to increase or decrease the size of the brush. Do the same on the right eyebrow, but this time make sure you choose brushes that are tilted to the left.



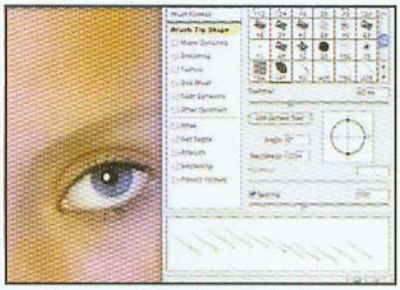
4 Reduce the opacity of the layer to about 50 per cent to smooth down the effect a bit. Name the layer 'Lighten Brows'. Apply a Gaussian Blur with a radius of about two to the layer. This whole process should lighten the eyebrows and make them more continuous.



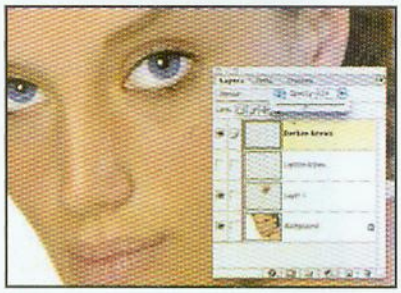
5 After you have finished painting the base, switch off this layer temporarily and sample a medium dark colour from the original eyebrow, then switch on the Lighten Eyebrows layer again. Create a new layer on top of it and call it 'Darken Brows'.



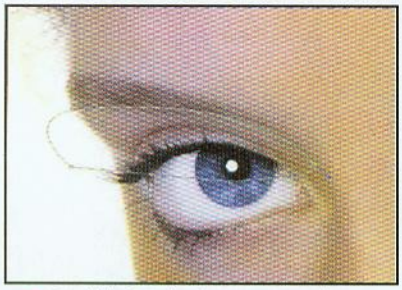
6 Using the various brushes you have created, begin to paint a new eyebrow and keep changing brush directions to create a natural effect. Increase and decrease the brush size continuously.



7 You can make your life easier by clicking the Brushes palette next to the file browser. Click on Brush Tip Shape to increase the spacing of the brush. You'll now be able to drag it along the eyebrow and a succession of eyebrows will appear in the spacing you have specified.



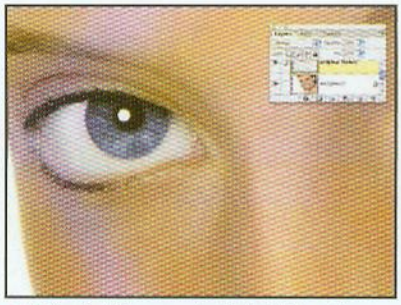
8 Do this with the left and right eyebrow until the effect looks natural. Use the Opacity slider to smooth in the effect. You might also want to apply a Gaussian Blur with a very small radius. Experiment with the Opacity slider of the Lighten/Darken Eyebrows layers until the effect looks right.



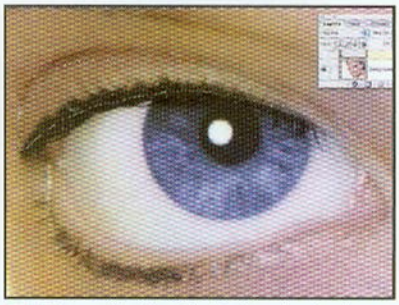
9 Cut off the bits that have gone over the original eyebrow by applying a curved path underneath and above it. Load the selection and feather by about ten pixels. Move it a little bit away from the brow and press Backspace. Move in until you have the desired effect, then merge all layers.

Part 7: Creating new eyelashes

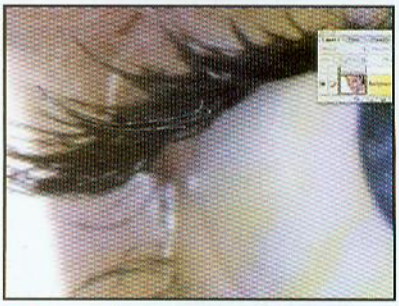
Paths and a succession of duplicating layers are going to help us create an entirely new set of eyelashes...



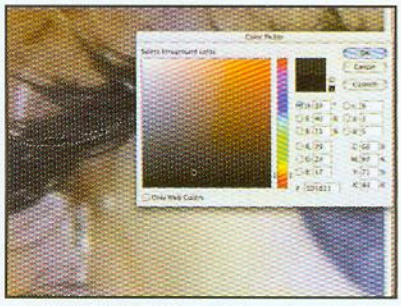
1 The first thing you should do is tidy up the existing eyelashes. Separate big chunks and shorten the eyelashes, then make a copy of the background to be on the safe side. Use a combination of the Clone stamp and Healing brush to get rid of excess eyelashes.



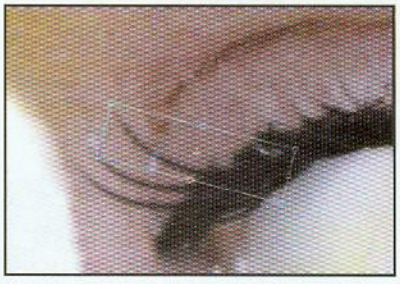
2 The result looks as if a lot of eyeliner has been applied to the eyelid. To reduce this, do a selection within the eyelid that includes the lashes and use the duplication method: press V, then Command-Alt and drag downwards. Use the Free Transform tool to make adjustments if necessary.



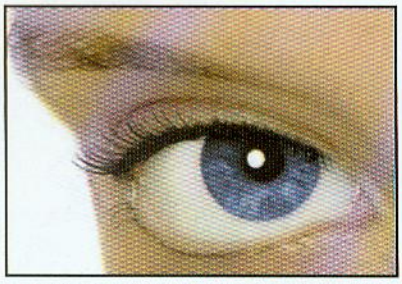
3 Now we'll create a single eyelash to use over and over again. Choose the Pen tool and temporarily switch off the layer with the removed eyelashes so you can see the original eyelashes. Zoom in 200 per cent and start to draw a path around one eyelash.



4 Create a new layer, load a selection from the path and feather by one pixel. Select a very dark brown, nearly black shade as the foreground colour and fill the selection by holding down Alt and pressing the Backspace key. Name the layer 'Single Eyelash' and duplicate it by pressing Command-J.



5 Adjust the new eyelash on top of the stubs of the remaining original eyelashes. Continue this process by pressing Command-J, scaling and rotating the lash using Free Transform. Change to the Distort option if necessary by holding Ctrl and clicking in the Transform window. Repeat this process until you have filled the entire eyelash area.



6 Merge layers once in a while to avoid getting a cluttered Layers palette. Use your judgement to make the eyelashes look beautiful and natural, then follow the same process for the lower lid. You will have to be much more precise here and use a smaller, more curved initial eyelash. Repeat the whole process on the left eye. CS5

SECTION **THREE**

Enhancing the hair and skin

In this chapter we'll look at applying make-up, giving our model a healthy tanned look, as well as adding hair from other images…

The techniques we'll use in this chapter will complete our work on the model's face. We'll show you how to apply convincing make-up, change the colour of her hair and change the skin tone from a rather pale look to a suitably sun-tanned glow.

In addition to these quite subtle changes, we'll also change the model's overall look by adding hair that we will take from other photo shoots, blending it in so that it appears seamless and realistic. We'll also be making use of *Photoshop*'s powerful channels and paths features to make a selection of the model's face outline that we can use over and over again, which will save us a lot of time and effort in future steps. We'll also increase our productivity even further by covering the creation of Actions.

Files on disc
The files needed to complete this tutorial are in the Section 3 folder on the cover CD.

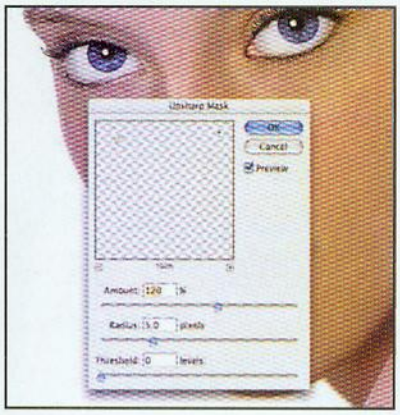
Part 1: Applying make-up

Our first step is to give our model a virtual makeover, applying realistic lipstick, eyeshadow and mascara...

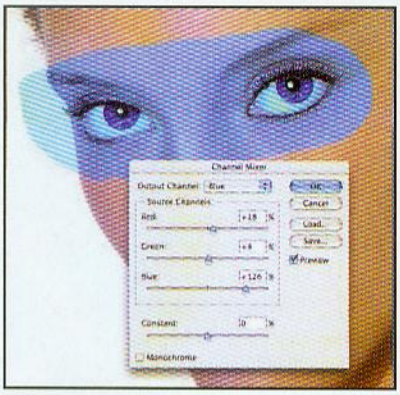
Dust & Scratches

The advantage of using the Dust & Scratches filter over the Healing brush is that you have more control over the amount to apply. It is also faster because you don't have to do any sampling and it works better on isolated edge areas where the Healing brush would smudge that area.

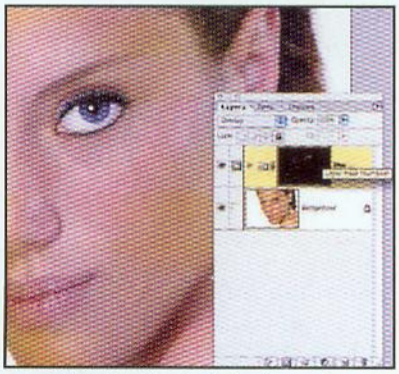
1 Make a wide selection around both eyes, then press Command-J to copy the selection into a new layer. Double-click the layer and call it 'USM' (for Unsharp Mask). Create a new layer set and call it 'Blue Eyeshadow'. Drag the USM layer into the layer set.



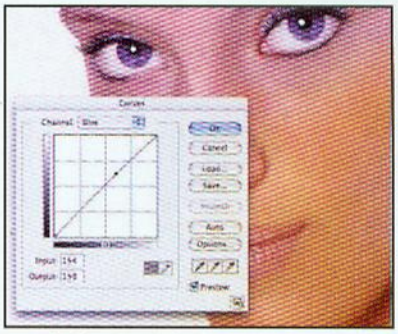
2 Go to Filter>Sharpen>Unsharp Mask and choose a ridiculously high setting such as 120 for amount, 5 for radius and 0 for threshold. Don't worry about the effect that this creates for now.



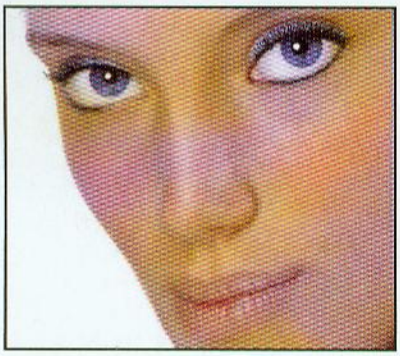
3 Hold down Alt and bring up the Channel Mixer adjustment layer. Tick 'Group with previous window' in the window that comes up first. Now change the channels and move the sliders until you get a very metallic blue.



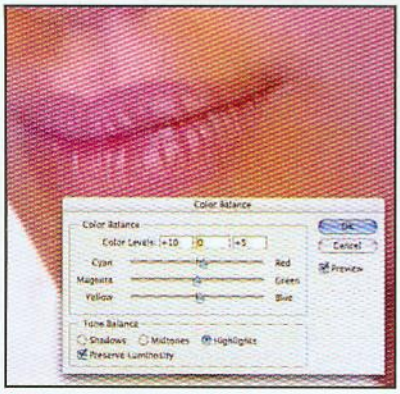
4 Collapse the Blue Eyeshadow layer set window, click on the layer set and apply an adjustment layer. Fill the layer mask with black, then change your brush colour to white and begin painting the blue onto the eyelid. Set the layer set Blending mode to Overlay.



5 Click back on the background layer and duplicate it. Double-click the copy and call it Noise. Create a new layer set, call it 'Rouge' and drag the Noise layer into it. Now hold Alt and select the Curves adjustment layer. Again, select the 'Group with previous window' layer. Lift the Red channel in the highlights and the Blue in the midtones to get a nice pinkish colour.

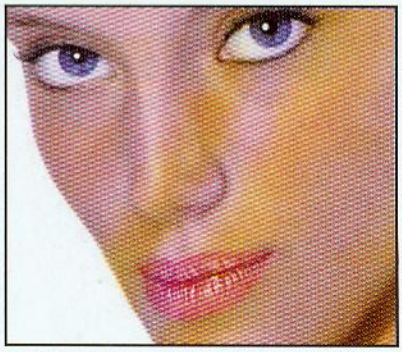


6 Collapse the layer set, highlight it and apply a layer mask. Again, fill it with black first and then change the paintbrush to white. Choose a very soft, large brush, set the opacity to 30 per cent and paint where you want to apply the rouge. If the effect is too subtle, change the layer set Blending mode to Multiply and reduce the opacity.



7 Highlight the background layer and make a neat path selection around the mouth. Load the selection, feather by one pixel, choose any colour adjustment layer you prefer and redden the lips to your colour of choice.

8 The edge of the lip will be a little unnatural-looking as a result. Command-click into the layer mask to bring up the selection, then choose Select>Modify>Border and set it to 6. Now go to Edit>Fill and choose 50 per cent grey from the drop-down menu. Repeat the process but this time set the border to 12 and fill with grey again. The edges should look natural now.

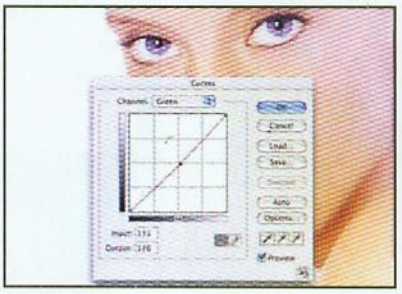


9 To make the lip look glossier, duplicate the background layer. Load the selection of the mouth again by pressing Command and clicking into the adjustment layer. Click on the background layer to activate it and choose the same Unsharp Mask filter as before. Choose Edit>Fade Unsharp Mask and select Soft Light.

Part 2: Changing the hair colour

Using curves and blending modes, we're now going to give our model red hair...

1 Discard the layers from the previous exercise. Now we'll make the model fairer by duplicating the background layer and setting the Blending mode to Screen. Lower the opacity to bring down the effect. Note that the Screen effect also helps the skin to look flawless.

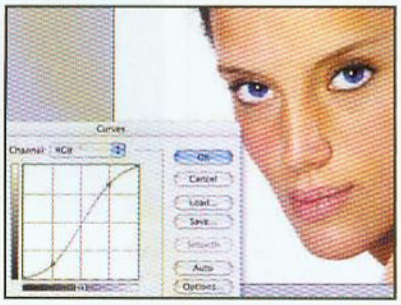


2 Press the Adjustment Layer icon and choose the Curves adjustment layer. Drag the RGB curve upwards slightly, then change to the Red channel and drag that curve upwards too. Change to the Green channel and drag the curve downwards to add a little bit of magenta.

3 Fill the adjustment layer mask with black, then swap to a white paintbrush and paint the red through in the adjustment layer mask. Be careful when you come to the edges of the skin. Choose a very low opacity soft brush and set the Blending mode of the brush to Screen.

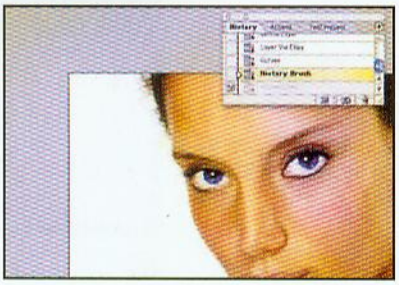
Part 3: Changing the skin tone

Our model's face is rather pale-looking, so in this section we will alter her complexion and give her a sun-tanned look...

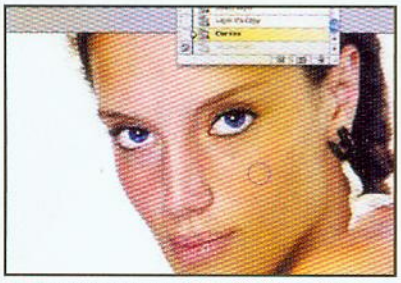


1 To give the face a beautiful, sun-tanned, high-contrast glow, apply a Contrast curve with a Curve colour adjustment. Bring up the Curves window, lift the highlights and pull the shadows downwards. This is a key adjustment if you want to increase the contrast of an image quickly.

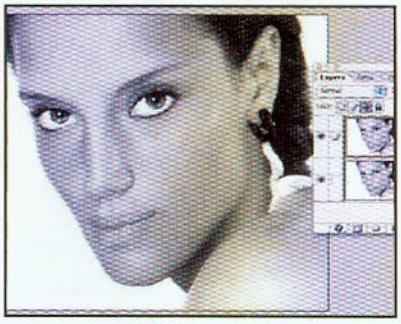
2 This is a very useful technique when you want to make an adjustment or apply a filter to an image and only apply it to certain areas. It is a quick method that you cannot modify later so only use it when you're sure you know what you're doing. Start by applying a Gaussian Blur with a radius of about six pixels to the entire image.



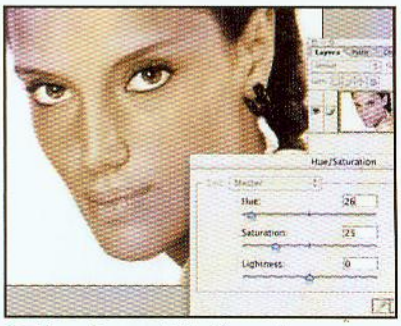
3 Bring up the History palette. Your Gaussian Blur filter should be the last in the list of history states. Click to the left of the Gaussian Blur state to set a history state and a little paintbrush with an arrow wrapped around it will appear. Click on the state above to activate it and the Gaussian Blur effect will disappear.



4 Now you need to choose the History brush. Make sure it's very soft with an opacity setting of about 70 per cent. Leaving out the eye area, the mouth and the hair, paint over all the areas that you want to be affected by the Gaussian Blur. Afterwards, discard the Gaussian Blur history state by dragging it to the wastebasket.



5 To give the entire image a sepia tone, set the Blending mode to Overlay (another quick method to increase the contrast in an image), desaturate the background layer and duplicate it. Press Command-E to merge down.



6 Press Command-U to bring up the Hue/Saturation adjustment window. Click Colourise and drag the Hue slider nearly all the way to the left. Drag the Saturation slider about half way to the left too.

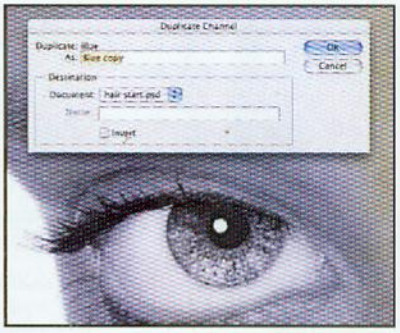
Part 4: Channels and paths

We want a selection of the face outline that we can use as many times as we like so we'll create one with a combination of channels and paths...

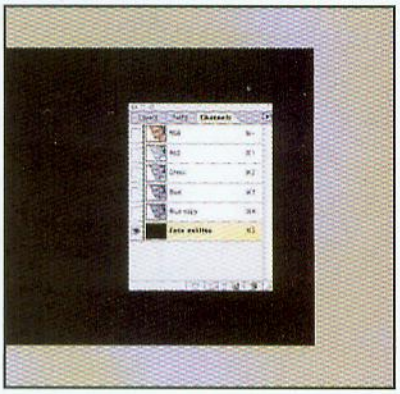
Combining images

Ideally, you shouldn't be in a position where hair needs to be added to areas where there is none. However, there will always be situations where time is critical and you have to improvise and make the best of what you have. A photo shoot normally creates a whole succession of images that are shot under the same conditions, with the same lighting and so on. This means that if one image is lacking a particular element, you might find it in another shot.

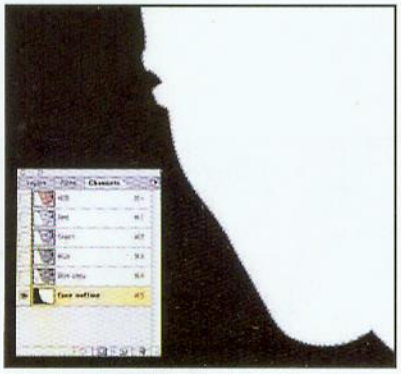
1 You will need a selection of the right of the model's face. You won't need one on the right of the image. Press P for the Path tool, then zoom in 100 per cent and make a path around the outline of her face. Only do a loose selection where the eyelashes and eyebrows are. Double-click on the path in the Paths palette and call it 'Face Outline'.



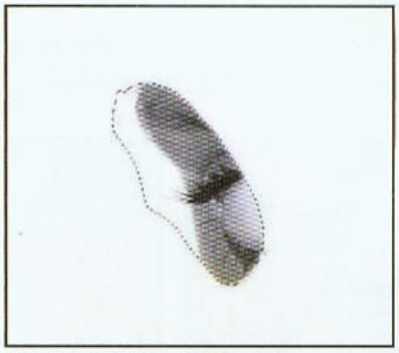
2 Zoom into the area where the lashes overlap the face outline, then go to the Channels palette and click on the Red channel, the Green channel and the Blue channel one at the time and compare the eyelash area. Choose the channel where the eyelashes have the most definition in front of the white background. In this case it's the Blue channel so select and duplicate it.



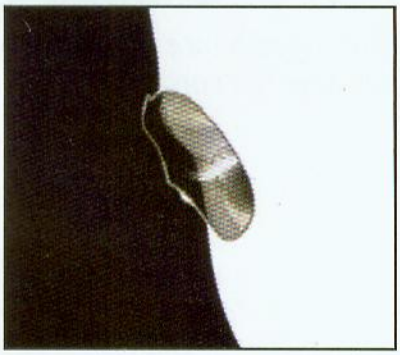
3 Click on the icon next to the wastebasket in the Channels palette to create a new layer. The screen will fill with black and a new layer appears with the name 'Alpha 1'. Double-click on it and call it 'Face Outline'.



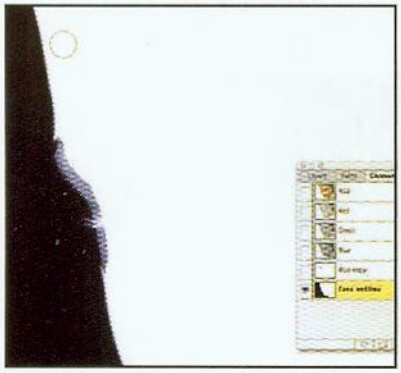
4 Go to the Paths palette, click on Face Outline and press Command-^ to activate the path. Now feather by four pixels. Go back to the Channels palette, make sure Face Outline is highlighted and fill the area with pure white. Press Command-D to deselect.



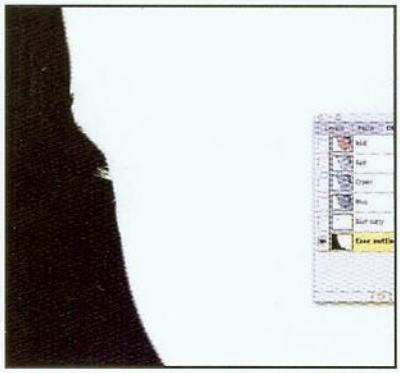
5 Activate the Blue channel copy. Since we are only interested in where the lashes and eyebrows meet the white background, only do a selection around that area. Invert the selection by pressing Command-Shift-I, then press D to set the colours to default and press Backspace to delete the rest of the channel.



6 Invert the selection again, press Command-C to copy, then click on the Face Outline channel and press Command-V to paste. Now press Command-I to invert the selection. Since our feather was set to four pixels, which was necessary to match the path selection, there will be borders around our selection.



7 Deselect, choose a small brush with 100 per cent opacity and 100 per cent hardness, press D to set the colours to default and paint over the black area. Make sure you don't come too close to the face outline. Press X to switch colours and do the same over the white area.



8 Press O and check whether the Dodge tool is selected. Set the range to Highlights and exposure to about 40 per cent. Now paint over the remaining white area and the lashes. You will notice that the brush only picks up on the highlights and leaves the black untouched.

9 The selection is now ready. This technique is ideal when you want to combine selections of smooth objects with selections of frizzy, less defined sections. To activate the selection, hold Command and click on the Face Outline channel, then click on the RGB to get back to the image.

Part 5: Adding hair

We have to steal sections from other images if we want to add volume to our model's hair...

Apply actions

It is important to make your workflow as productive as possible and one way to do this is to automate actions. For instance, if you apply Noise to add more texture, you'd normally follow this up by applying a Gaussian Blur with a small radius. These settings are likely to stay the same and if you apply them often you can record them in an action. You can apply actions to an entire folder so long as the conditions of applying the action are exactly the same as they were in the moment you created the action.

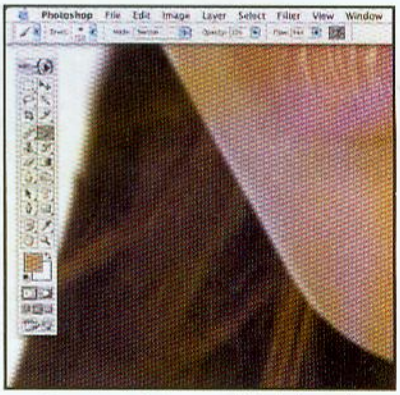
1 Before you start adding hair, we'll create an action that will make your life much easier during this exercise. To simulate the situation you are going to be in when using the action, temporarily create a new layer. Open the Action palette window and click on the New Folder icon, third from the right. Call it 'Load Face Outline'.

2 Now press the icon to the right. Name the action 'Load Channel' and assign a function key if you want to. Press OK, then go to the Channels palette. Command-click in the Face Outline layer, press the Backspace key to delete and Command-D to deselect. Click the Stop button in the Actions palette and delete the new layer you created earlier.

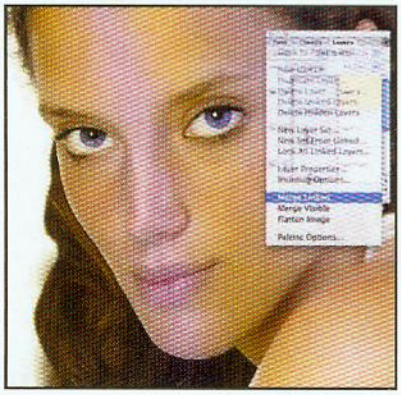
3 First open the images AF6S9818 and AF6S9873 from the source file CD. Bring the image AF6S9818 to the front . Make sure both images are visible on the screen and make a selection around a dark-haired section on the right. Make sure you only select hair – there should be no skin or white areas. Press V for the Move tool and drag the selection over to the main image. The selection will be a new layer.

4 Arrange the section of hair in the neck area and make sure it overlaps the skin. Now use your action. Either press the function key you've assigned or click on the action and press Play in the Actions palette.

5 Select another piece of either image and drag it over. Remember that you can cycle through images by pressing Ctrl-Tab. Arrange it next to the first piece. If the pattern looks too repetitive, press Command-T to rotate or scale the piece and blend it in better. Now load your action.



6 Zoom in on the image and check the overlap between the layers. Blend the borders by applying a layer mask and painting through. Alternatively, you can use the Eraser tool, or a feathered ten-pixel lasso.



7 Repeat this process until you have a realistic-looking section in the area underneath her cheekbone. Once you have, merge all of the hair layers by linking them and choosing Merge Linked from the Layers drop-down menu.

8 Select the section of hair on the left of the image AF6S9873 and drag it over. Transform it to make it larger and arrange it next to the hair section. Use the Lasso toolset with a feather of about four pixels and make a curved selection in order to get rid of the white background on the right of this layer. Leave the left side with white shining through.

9 Drag in the same selection and make it larger than the previous one so that it stretches up to the face. Arrange it next to the previous layer and use the Lasso again to cut off the white from the right. Zoom into the image and investigate the overlapping areas and blend if necessary. Now merge down.

Part 5: Adding hair continued...

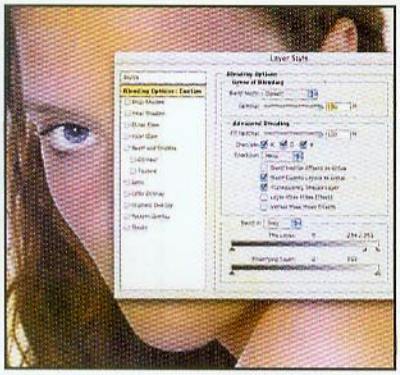
We now need to blend in the hair on the left side of the face, and repeat the process on the right-hand side...

Colour transitions

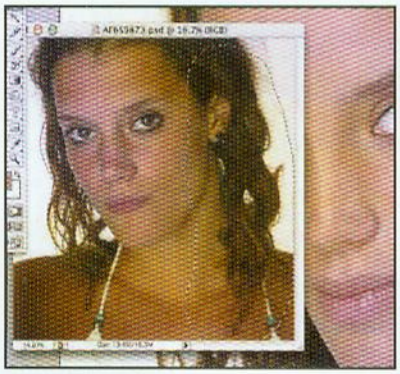
Double-clicking on a layer will bring up a whole new world of blending options and layer styles. They are the easiest way to knock off colours based on their value, without having to use a complicated extraction method. You can define which pixels from the active layer to drop or which pixels from the underlying layer to show through. If you want to create a smooth transition between blended and non-blended pixels, you can split the slider by holding down Alt.

10 Go to image AF6S9818 and select the left section of the image and drag it over. Enlarge by about 180 per cent. Now match the hair colour by duplicating the layer, setting the Blending mode to Multiply and decreasing opacity to 40 per cent. Merge down.

11 Now set the Blending mode to Darken and arrange the layer over the rest of the hair. The Darken Blending mode has knocked off the white background but it has also created an artificial effect on the overlapping areas so zoom in and use the Eraser tool to tidy up these areas.

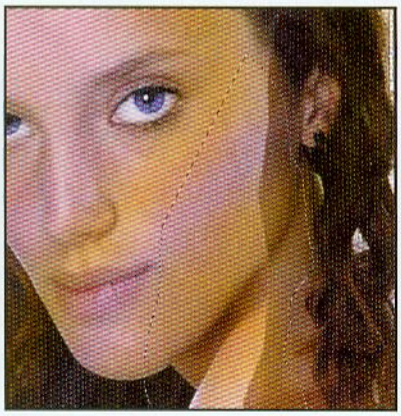


12 To knock off the white background entirely, double-click on the layer to bring up the Layer Style window. Check if Blend is set to Grey and bring the slider of this layer slightly to the left to about 253. Now hold Alt to split the slider and drag the left section further to the left, to 234.



13 We want to have hair on the right too, and at the same time cover up the distracting bikini strap. That would be impossible if we hadn't got a picture we could use for this purpose. Open the image AF6S9873 and select it as shown here, then drag it over to the main image.

14 Position the layer so that the earrings roughly align. Change the opacity level temporarily to help you do this. You will need to use the Free Transform tool to scale up and rotate the layer.



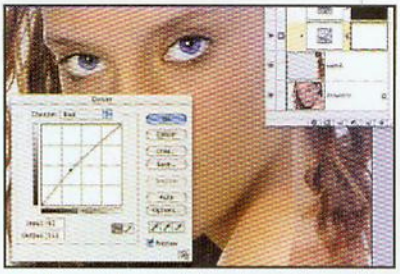
15 Get rid of all unnecessary skin. Choose the Lasso tool with a feather of about 20 and do a selection around the hairline in the face and on the shoulder. Press Backspace to delete.

16 Now we need to colour match the skin colours to adjust the colour of the ear and blend in the hair later on. Press Command-J to duplicate the layer, then change the Blending mode to Screen. This will improve the layer. Now press Command-E to merge down.

17 The areas we need to colour match are of different colour tones so you have to do the colour correction on each area separately. First, let's adjust the area of hairline at the top left of the ear. Hold Alt when bringing up the adjustment window, then tick the 'Group with previous layer' box.

18 Use a Hue/Saturation adjustment layer to complete this task. The new layer is too saturated in the reds and is too dark so increase the lightness of the reds by about 25 and decrease the saturation by about -20.

19 Now click the layer mask of the adjustment layer and fill with black to undo the effect temporarily. Choose the paintbrush, select white as the foreground colour and paint back the effect in the area if required.



8 Now we'll concentrate on the neckline and the hair on the shoulder. Click back on the layer, hold down Alt and choose Curves. Tick the Group box again, then pull the curve down slightly. In the Blue channel, take out some yellow. Again, fill the layer mask with black and then paint out only the area necessary.

9 Merge all the layers that have been created to blend the new hair layer. Copy and paste sections of hair and cover up unfilled areas if necessary. Use sections of it to fill up the volume of hair in this area.

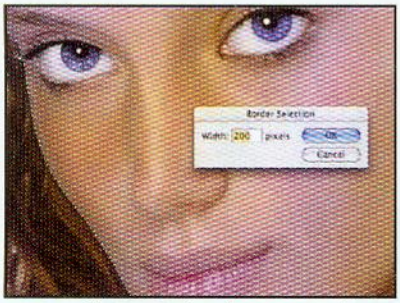
Part 6: Removing reflections

Now we've added hair to our model, there are some inappropriate light reflections and highlights that we need to get rid of...

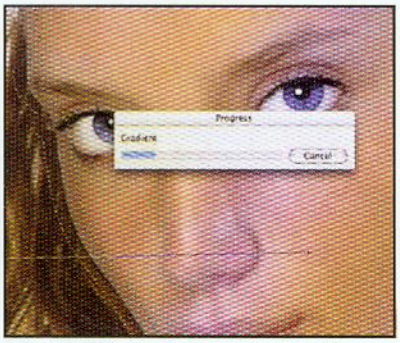
1 The white reflection along the face outline is not appropriate any more now that the hair is there so you will need to get rid of it. Load the Face Outline selection by Command-clicking on the Face Outline channel in the Channels palette.

2 Invert (Command-Shift-I) and nudge the whole selection area to the right with the Right arrow key. It needs to go over the white reflection. Press Command-J to duplicate this selection into a new layer. This duplicates the left of the image, including the white strip of reflection.

3 Go to Image>Adjustments>Desaturate, or Command-Alt-U, then go to Image> Adjustments>Invert, or press Command-Alt-I. Deselect, then load the Face Outline selection from the Channels palette again. Invert the selection, then press Backspace to delete. The white line has now turned black. Blend in with the Opacity slider.



4 Load the Face Outline selection again. This time go to Select>Modify>Border. Choose the maximum amount of 200 and create a new layer. Sample the darkest skin colour, press X to switch to the Colour palette and then sample a medium-toned skin colour.



5 Press G for the Gradient tool and drag from the left to the right. You don't have to limit yourself to the selection area when doing this. Drag from the centre of the image to the left.

6 Choose the Multiply Blending mode for this layer and bring the opacity down. Delete all of the areas where you don't want the effect to happen. The Border command, for instance, has created a border along the image edges. Do a wide lasso selection and press the Backspace key. CAP

SECTION **FOUR**

Changing body features

We'll create a perfect body for our model, before transferring her head onto the new image and blending the two together…

Now that we've got the model's face and hair looking as we want them to, in this section we'll start working on an entirely new image. Using some of the techniques which we've covered earlier in this project, we will remove all of the existing imperfections and smooth the skin of the new image. We will then improve the outline of the body. Once we're happy with our results, we will replace the face on this new image with the face we have worked on in the earlier sections, matching the skin tones and shadows to create a seamless new composition.

This chapter in particular illustrates the limitless possibilities which *Photoshop* offers, enabling you to effectively and creatively blend elements from different sources.

Files on disc
The files needed to complete this tutorial are in the Section 4 folder on your cover CD.

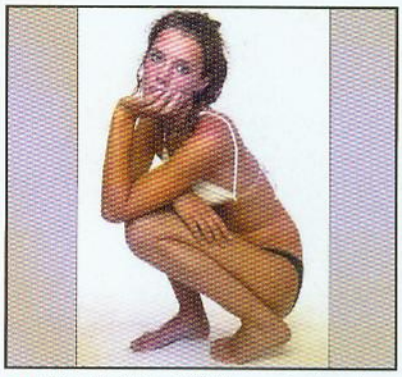
Part 1: Basic corrections

We need to tidy up our raw photograph, altering the bikini and the overall body shape of our model...

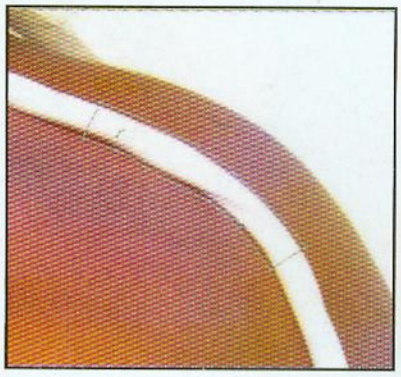
Eyedropper tool

When you need very precise colour adjustments or need to match one colour with another precisely, Eyedropper samples are a great help. Select them from the Eyedropper tool sub-menu and then click in the area where you would like to take colour measurements from. An alternative way is to create them while a colour adjustment window is open, then holding Shift and clicking in the area of the image where you would like to take the sample.

You can create up to four colour samples in one image and they will be displayed in the Info palette. If you would like to change the colour mode they are displayed in, click on the arrow next to the small Eyedropper icon and choose a mode from the drop-down menu.



1 Open the file body.tif. We are going to paste on the face that we have been working on in previous chapters. First remove any blemishes, patches and so on from the body, as we did with the face earlier. Use the Healing brush, Patch tool and Clone stamp for this.



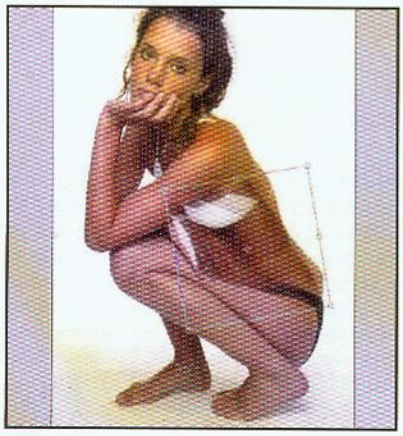
2 We need to remove the bikini strap so make a path selection along the strap. Load the selection, feather by one pixel and change to the Patch tool. Move the cursor within the selection and drag next to it. Tidy up the remaining patches with the Healing brush.

3 Now we want to trim the body outline. Make a path that you think is appropriate around the area. Load the path, feather by four pixels and choose the Paintbrush (B). Set the Blending mode to Lighten, sample close-by white and paint over the area. Save the path as 'Right Body Outline'.

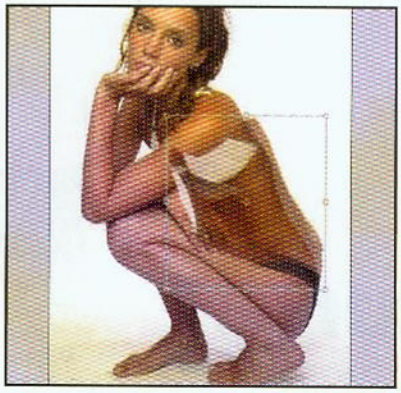
4 The lower arm looks too big so make a path selection as shown, then choose the Move tool (V), press Command-Alt and move inwards. Tidy up with the Healing brush afterwards.

5 The next step is to tidy up the stomach area. We are going to steal from another image that has a flatter stomach. Open the image belly.tif. Make a wide selection around the stomach, then drag the selection over into the main image.

6 Align the edge just above the panties. To do this, change the opacity of the layer temporarily. You can do this quickly by pressing Return, typing the opacity amount and then pressing Return again.



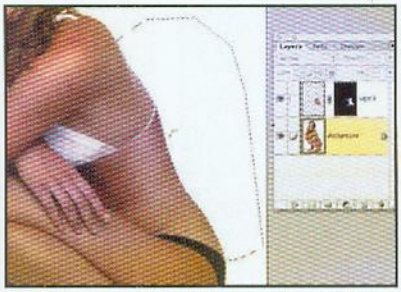
7 Looking through the top layer, scale the layer down so that the bikini tops are roughly the same distance between panties and bikini top.



8 Now get rid of anything but the stomach area. Once you have done this, transform further. It will need to be scaled down even more and rotated slightly. Align the wrinkle that is a result from kneeling between the two layers.

9 Select the Free Transform tool and then stretch the layer upwards to give a flatter impression. Align the wrinkle again, then tidy up all of the imperfections from this layer. Also, make sure you tidy up the wrinkles but leave the one that is the result of bending over for a more natural look.

10 Match the skin colour. A quick way of doing this is to duplicate the layer and set the Blending mode to Screen. Merge down again and bring up the Hue/Saturation window. Drag the saturation slider down and the lightness slider up until the two skin colours match.



11 Load your path Right Body Outline and delete anything that is overlapping the body outline. Now apply a layer mask and blend the layers together. To work faster and to have better control, fill the layer mask with black first, then change the brush to white and paint back the stomach.

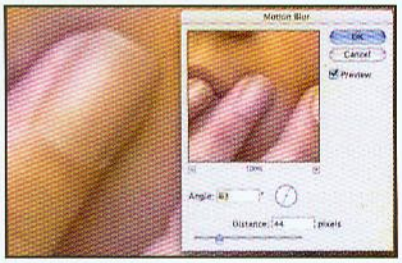
12 You want the layer to be darker on the left like it is in the original image. Switch off the top layer temporarily and make a lasso selection along the natural shadow line of the original stomach. Feather by 20 pixels and then switch on the top layer again. Press G for Gradient, make sure the layer mask is activated, then press D to set the default colours and drag from right to left

Part 2: Making beautiful nails

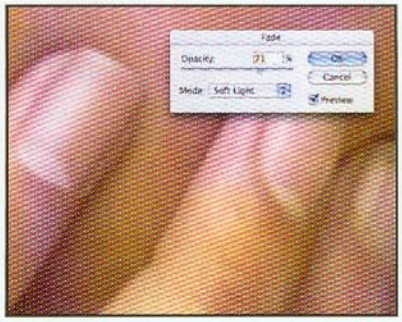
We're going to give our model a virtual manicure and pedicure to get perfect nails...

1 Zoom into one of the nails and make a selection in the middle of the fingernail where there is an area that is quiet neat. The best way is to use a path. Make a line along the borders of the fingernail where it's straight but curves across the nail. The aim is to resemble the curve where the skin meets the cuticle.

2 Choose the Move tool and move the cursor in the area until two arrows appear, then drag carefully along the fingernail. First move towards the cuticle, then, while holding down the Command-Alt keys, move towards the fingertip. Now you need to extend the fingernail slightly over the finger.



3 Select the whole new nail with the Lasso tool and feather by five pixels. Hide the selection and go to Filter>Blur>Motion Blur. Change the angle of the blur in the direction of the fingernail and apply an amount of about 150. This will help to smooth the nail and get rid of any repetitive patterns that may have been created by the duplication process.



4 Make a path resembling a cuticle. Save it and call it 'Cuticle', then load it and feather by two pixels. Move over the cuticle area and fill with white. Go to Edit Fill>Fade Fill and change the mode to Soft Light and opacity to about 70 per cent.

5 Now do a path that resembles a nicely shaped and groomed fingernail tip with a curved shape at the top. Save the path as 'Fingernail'. Load the selection, feather by two pixels and position it at the fingernail tip.

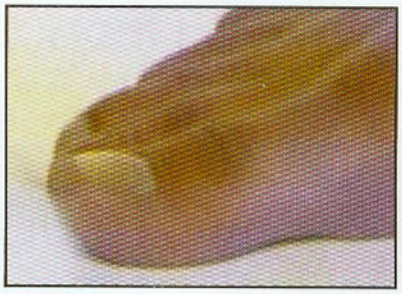
6 Use a white brush with an opacity setting of about 50 per cent. While painting, you will notice that the top of the fingernail is more opaque then the rest, as it is in reality.

Part 2: Making beautiful nails continued...

Fade command

This is a very useful but strangely overlooked command. It allows you to apply a Blending mode or fade anything you have just done, be it a paint stroke, a filter or a colour correction. When using it to fade a filter, it allows for the subtle adjustment of the filter itself because it fades the combination of the settings, rather than just one factor of the settings. Unfortunately, the Fade command is only available immediately after you have applied something. Perform another action and the option to fade will have disappeared.

7 Now repeat the procedure with every single fingernail. Keep reloading the paths for the cuticle and fingernail tip and adjust them to the shape and angle of the individual fingernail you are working on.

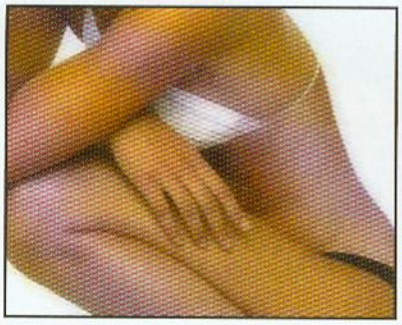


8 Tidy up the nails on the feet too. The definition of the nails is not very good here. Create a new layer, choose a small, soft paintbrush and paint the foot nails so that they look tidier and have a nicer colour. Blur the layer if necessary and use the Eraser tool to get rid of any overlapping areas.

9 Now go around the image and smooth out any wrinkles on the hands and feet. Use a small Clone stamp with an opacity set to about 30 to achieve this. This will just smooth the wrinkles and not remove them entirely.

Part 3: Smoothing the skin

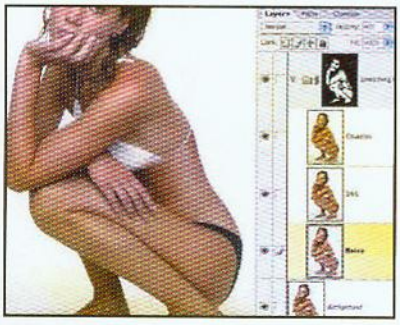
Now we'll carefully blend layers and apply filters to give the skin a much smoother appearance...



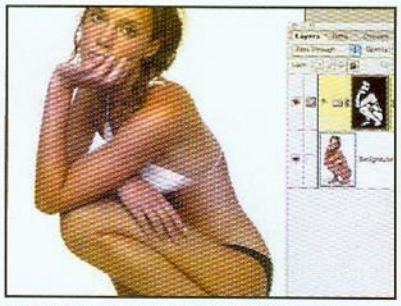
1 Duplicate the background layer three times. Call the top one 'Gaussian Blur', the one underneath 'Dust & Scratches' and the final one 'Noise'. We are going to use a blend between these layers to create nice, smooth-looking skin.

2 Since the patches on the skin are larger than those we dealt with on the face earlier, we have to apply stronger filters. For the Gaussian Blur, apply a radius of 30 pixels. The Dust & Scratches layer gets an amount of 20 and a threshold of 8. Finally, apply a Noise amount of five to the Noise layer, choose Gaussian and tick Monochromatic.

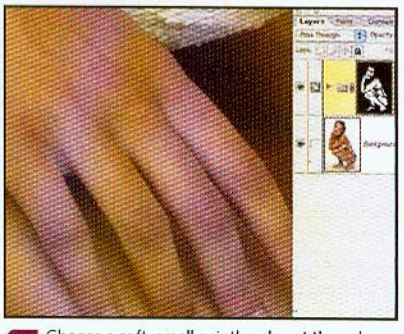
3 Now blend these layers using the opacity sliders of each layer. The actual settings are down to your judgement, but we'd recommend setting the opacity of the Gaussian Blur and Dust & Scratches layers to about 30 per cent and the Noise layer to about 40 per cent.



4 Once you have done this and the skin looks nice and smooth, create a layer set and call it 'Smoothing filters'. Drag all the layers with filters applied into the layer set. Make sure the order is still the same as it was before.



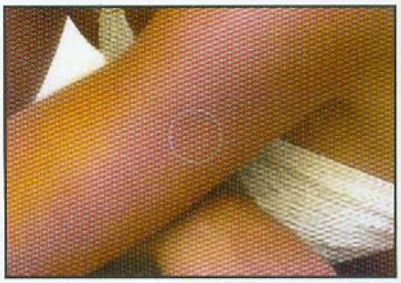
5 All definition and detail in the image has disappeared and needs to be painted back in so click on the layer set, collapse the Layer Set window and apply a layer mask to the whole set. You will now have to paint in the areas that need more detail or definition.



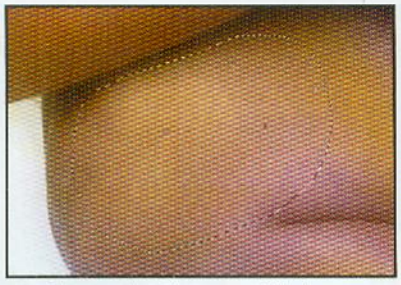
6 Choose a soft, small paintbrush, set the colour to black and start to bring out the edges of the body parts. Ignore the face area but pay attention to the hair. You will need to vary the brush size and opacity quiet often here.

Part 4: Colour matching the skin

The upper body is far more tanned than the lower body so we need to apply a smooth, continuous tone to the model's skin...

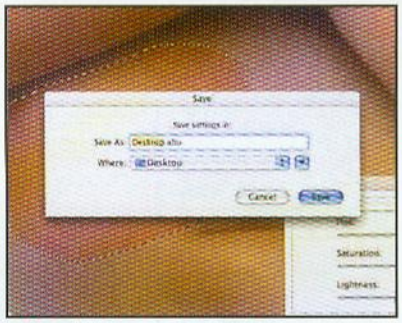


1 Before we import her new face, we would like her body to have a smooth, continuous, tanned tone. At the moment, the upper body is much more tanned than the rest of the body and other areas are discontinuous too. Since we are aiming for a tan, the tone on her arm comes the closest to what we are looking for.

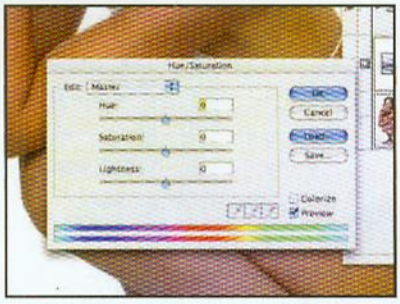


2 The area where the arm meets the leg illustrates the difference in skin tone. We need to find the right colour adjustment to complete this task. First, make a small selection on her leg, close to the arm. Make it about the size of her knee. Feather by five pixels, hide the selection and then bring up the Hue/Saturation window.

3 Use the hue, saturation and lightness sliders in the Master, Red and Yellow channels to match the leg area with the arm area. Try to be as precise as possible here. Use the RGB values in the Info palette to help you.



4 Once you have accomplished this, save these settings because we want to use them again in an adjustment layer. Press Save and call the settings 'Colour Match.ahu'. Save it somewhere on the desktop where you can locate it easily.



5 Deselect, get a Hue/Saturation adjustment layer and click Load. Locate your adjustment ending with .ahu and press OK. As this adjustment affects the entire image, it will look very unnatural at first. Fill the layer mask of the adjustment layer with black to undo the effect temporarily.

6 Now you have to bring out the colour where it is needed. In some areas, such as along the leg, it will be easier to create a path. In others, use a soft, large brush with low opacity and paint in the colour. If the whole effect is too strong, lower the opacity of the adjustment layer or tweak the colour by double-clicking on it. Finally, merge all the layers.

Part 5: Bringing in a new head

Now we've tweaked the body to our satisfaction, it's time to add the head image we created earlier and blend the two together...

Adjustment layers

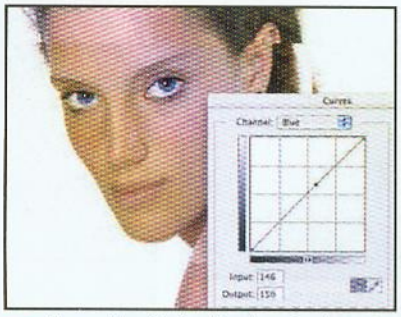
Adjustment layers are a must when doing any major colour corrections. For example, say you change the eye colour of your model – what if your client wants to change the colour later? You would have to do all the selections and adjustments again. When an adjustment layer is applied after a selection is active, the selection will remain within the adjustment layer. Should you later want to change the colour to something entirely different, you only have to double-click on the adjustment itself to get the required effect.

1 The head close-up we have worked on earlier has a cut off forehead. To blend this with a head that is at a different angle, such as in this case, would be very difficult and would probably look very unreal. We need to find an image that not only has the same head angle but also has the section with the forehead.

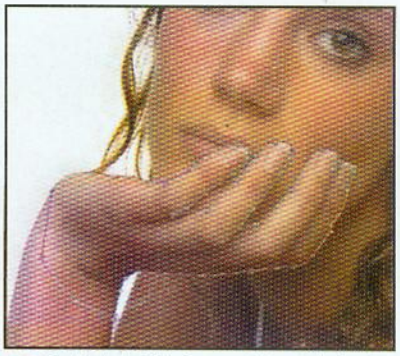
2 The image forehead.tif provides us with the entire forehead. Open it and tidy up the imperfections and the bit of hair on the forehead with the Healing brush. Using similar smoothing filters to the ones we applied to the face earlier, smooth the skin and then merge the resulting layers.

3 Open head-section02.tif, make a selection around the head and press Command-C to paste it into forehead.tif. Lower the opacity of the top layer and move the eyes on top of each other. Adjust the mouth, ears and forehead outlines and use Transform to rotate or scale if necessary.

Part 5: Continued...



4 Now we'll match the skin colour. Duplicate the background layer and set the Blending mode to Screen. Lower the opacity until the brightness is nearly the same and then use curves to adjust the skin tone. Now change to the Red channel. Command-click on the forehead, pull the curve slightly downwards at the point created, then go the Blue channel, Command-click and pull the curve slightly upwards.



5 Back in body.tif, before you bring in the head, make a path around the hand on which the head is resting. Save it as 'Hand'. You will use it later to paint through the new head. Draw the path more towards the outer edge than the inner edge of the hands and try to be as precise as possible since it will save you time later.

6 We now need to separate the head and body from each other in the background layer. Duplicate the layer twice. On the second copy, make a selection around the head, leaving out the hand but including the neck area. Also include all hair and leave a generous white border. Press Command-Shift-I to invert the selection, then press the Backspace key to delete everything but the head. Name this layer 'Original Head Only' and switch it off for the moment.

7 With the selection still active, click on the layer underneath and press Command-Shift-I to invert the selection again. Press I for the Eyedropper tool to sample the white area around the head, followed by Alt-Backspace to fill the selection with the foreground colour you just sampled. Name the layer 'Original Body Only'.

8 Now switch back to the image forehead.tif by pressing Ctrl-Tab and make a loose selection around the head. Since the image consists of two layers at the moment, go to Edit>Copy Merged to copy the whole image and not just the currently active layer. Switch back to forehead.tif by pressing Ctrl-Tab again and paste the selection.

9 Name the layer 'Head'. In order to get the head size right, switch off the Head layer and create a new layer. Now paint with a brush along the original outline of the face, including the ears. This will help you to apply the correct scaling to the new head.

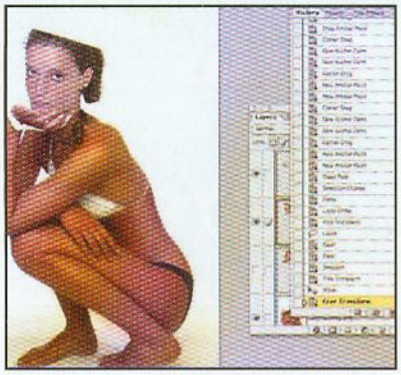
10 Switch back to the Head layer, press Command-T for Free Transform and scale and rotate the layer so it fits into the area you just painted. It won't fit precisely because the heads are at different angles – this is only to get the scale roughly right. Discard the new layer.

11 Now we've got the size right but we don't want the head to be at its current angle. You need to judge the rotation in relation to the hand we can't see at the moment so load the Hand path, click on the original layer and copy and paste. Make sure it is on top of the Head layer.

12 It is now easier to judge the relationship between body and head. Unfortunately, it also becomes apparent that the hand is far too big so switch on the hand we copied into a new layer earlier. Choose a Free Transform and scale it so it looks natural, then adjust it roughly with the arm.

Using layer sets

Normally, you tackle problems in Photoshop step by step. For instance, changing the eye colour of a model is one set of adjustments and altering the mouth is another. This means you can group your adjustments into meaningful units, and you do this by using layer sets. Layer sets are great when it comes to tidying up the layer palette. Another plus point is that you can put all layers that require the same layer mask adjustments into a layer set, apply a layer mask to the whole layer set and then apply one layer mask to a number of layers.



13 Now the hand is smaller, the relationship to the arm is not right any more. The relationships between the different body parts will require a lot of work, but first we'll concentrate on rotating the head so that the overall composition looks much more natural.

14 When the head looks correctly positioned, switch on the Original Head Only layer. Rotate behind the new head until the hair matches. Since we are going to bring more volume to the hair at a later stage, don't worry too much about the direct hair outline. Remove any stray bits that are a result of the transformations applied.

15 To help you with this task, press E for the Eraser and zoom into the image. If there's an area you want to remove but you don't know which layer it comes from, hold down Command-Ctrl and click on that area. All areas that exist in the image will come up in a drop-down list, with the bit you are clicking on at the top. This feature makes it very easy to switch between layers in your document.

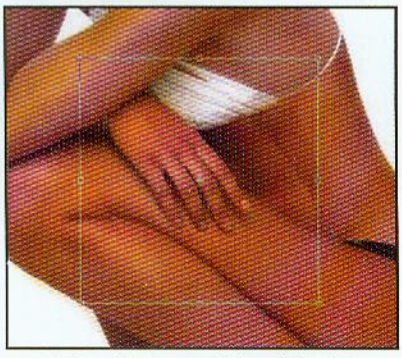
16 Tidy up the image in this fashion. Where the Eraser tool doesn't work, use the techniques we have used throughout this tutorial, such as duplicating, using the Healing brush and so on. Once this is completed, match the colour around the neck area.

17 Now we need to match the skin colour of the face with the skin colour of the body. Use the adjustment layer for matching colours that you created earlier. Make sure it is on top of all the other layers. Because the effect would be too strong on the face, choose a soft brush with the colour set to 50 per cent grey and carefully paint within the colour match adjustment layer over the face area. Merge all layers apart from the Hand layer.

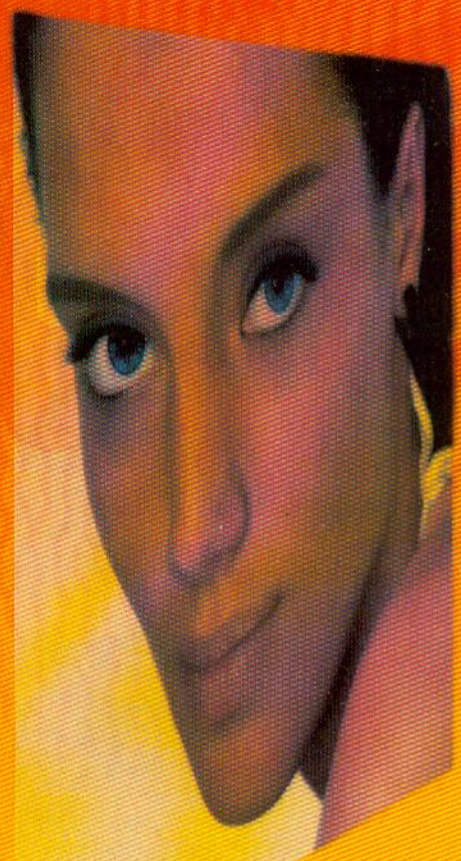
18 Look at the image in Fit on Screen mode (Command-O). The back of the hand needs shortening and the alignment to the arm adjusted. The left arm also needs to be resized so it looks natural next to the right arm, while the right hand needs to be adjusted according to the size of the left hand. Use Stamp Visible here. Stamp Visible the image by holding down Alt and choosing Layer>Merge Visible from the menu bar.

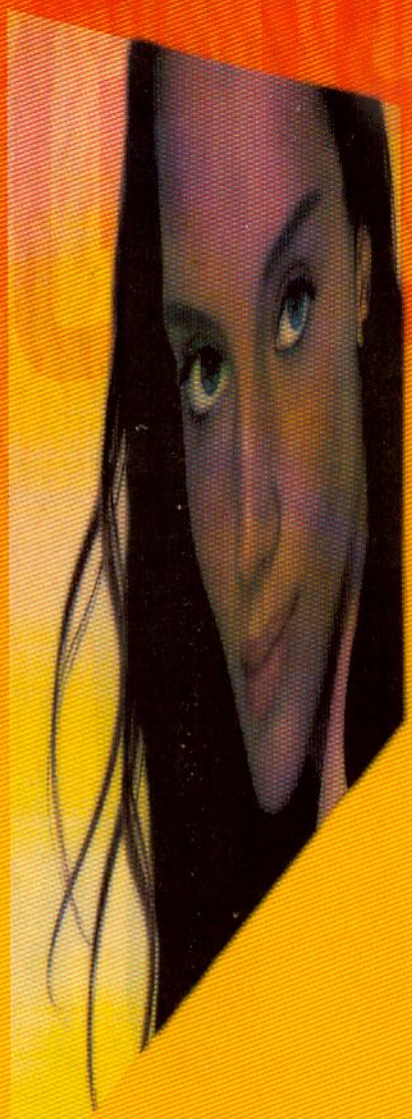
19 Start with the hand. Switch to the Hand layer and set the lasso to a feather of 10. Make a selection around the excluded bit of the hand, including the white background. Press V for the Move tool, hold down Command-Alt and move to the right until the hand looks like it's correctly proportioned. Adjust the arm in the same fashion, but follow it up by a rotation that aligns arm and hand again.

20 To reduce the width of the right arm, we need to split it in half and move the entire upper section downwards. Use the lasso to make a selection along the middle of the arm, then move outside the left upper arm, go above the head and close on the other side of the right arm again. Press V, then hold Command-Alt and move the whole section towards the bottom right. Tidy up the resulting separations in the arm area with the Healing brush.



21 Make a selection around the right hand. Press Command-J and switch off the layer. Go back to the original layer and remove the hand where it overlaps the leg. Switch on the hand and scale until it looks natural. Apply a layer mask and smooth in the hand with the underlying layer. Flatten the image and save as body-section04.tif. CAMP





SECTION **FIVE**

Clothing and background

Now we've created our ideal model, we'll place her in a suitably sunny environment and give her a change of clothes...

Taking the completed image of our model that we created in the last chapter, we are now ready to add the finishing touches to our composition. First of all, we will be changing the colour and pattern of her bikini. We will then move on to add some more hair, as well as giving her a flower to add some more colour and interest to the image.

Creating new channels will help us to effectively separate the foreground from the background so we can insert a completely new background image. This will enable us to give the impression that our photo shoot took place on an exotic, sun-drenched beach, rather than in a photo studio.

Convincingly blending the new background with our image will be our final task in our project.

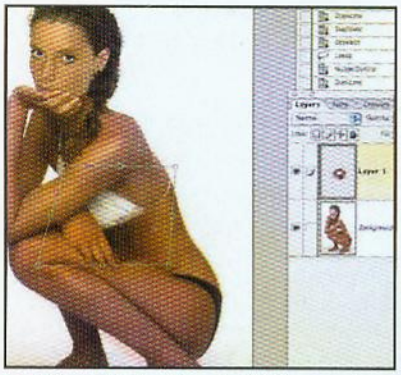
Files on disc
The files needed to complete this tutorial are in the Section 5 folder on your cover CD.

Part 1: Altering the outfit

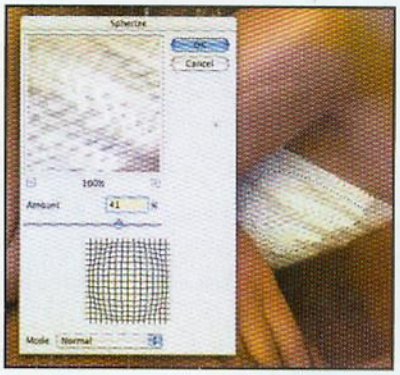
We'll begin our tweaking by changing the colour and shape of the model's bikini...

Lock Transparency

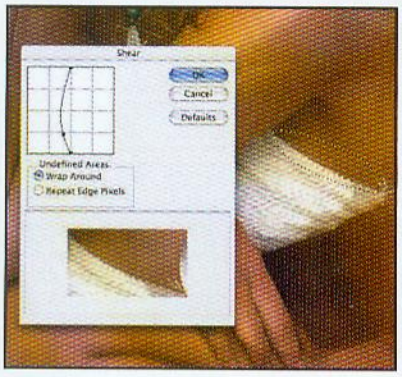
The Lock Transparency button enables you to fill opaque areas without affecting the transparent part of the image and therefore saves you having to make a selection. It also enables you to apply a filter that normally expands the area it is applied to and confine it to the opaque area only. Deleting with Lock Transparency switched on will fill the area with the background colour. Knowing these little tricks will speed up your work flow immensely and will provide you with more control.



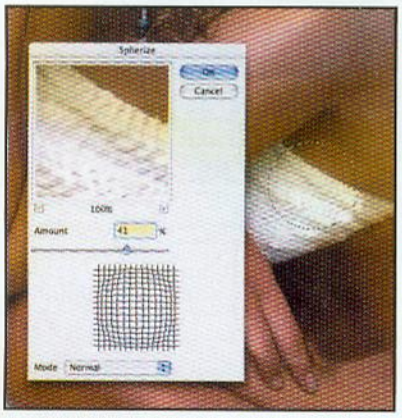
1 We want to transform the bikini top so make a selection around it and press Command-J to copy it into a new layer. First make the bikini top larger by about 120 per cent, then Ctrl-click in the Transformation window and choose Distort. Drag the handles so that the breast gets more volume.



2 Still on a separate layer, make a selection within the white bikini top and go to Filter> Distort>Pinch. Now choose a setting of about -20. With the selection still active, go to Filter>Distort> Spherize. This time, you should choose a setting of about 40.

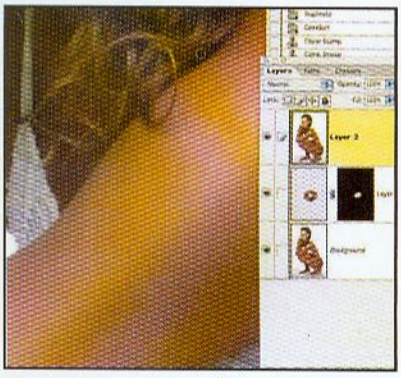


3 Make a selection along the line where the bikini top borders with the skin, just underneath the armpit. Go to Filter>Distort >Shear. Pull the line from the bottom to the left. Press Command-F to repeat the filter with the same settings, then tidy up any stray white areas.

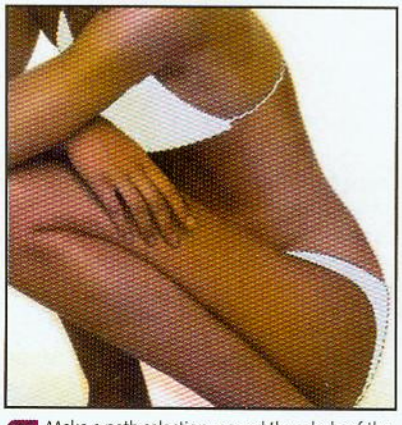


4 Make the circled selection around the bikini top and feather by about 10 pixels. Go to Filter>Distort>Spherize again and use the same settings as before.

5 Apply a layer mask and paint the bikini top into the rest of the body. Remember that you can temporarily switch the layer mask off by holding Shift and clicking in the layer mask. Alternatively, you can see the mask only by Alt-clicking in the layer mask.

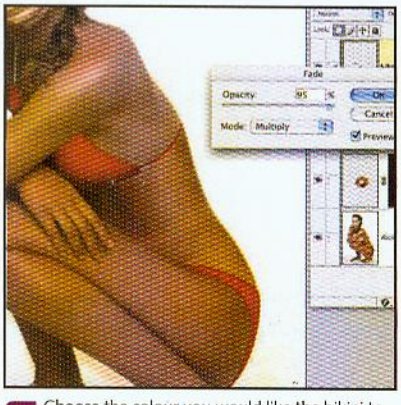


6 Create a new layer, hold Alt and go to Layer>Merge Visible. Use the Burn tool to darken the area where the arm meets the hand to give the bikini top a rounder appearance. Remove the bead from the other side of the bikini top, along with any stray hair.

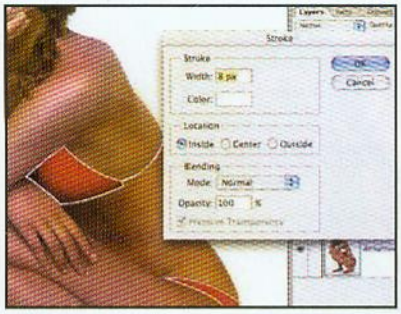


7 Make a path selection around the whole of the bikini. Load the selection, feather by two pixels and press Command-J to copy into a new layer. Fill the selection with a very light grey.

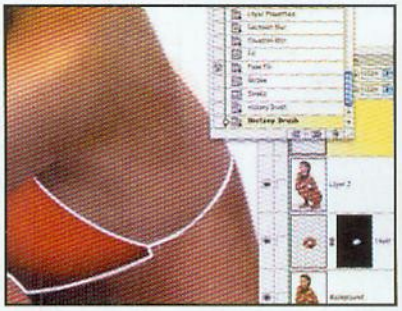
8 Paint a very simplistic pattern on the bikini top to illustrate its shading. Also, do a line of shade along the outer bit of the panties, then lock the transparency of the layer by clicking the top left icon in the Layers palette. Apply a Gaussian Blur of about ten pixels and press Command-F to repeat the filter immediately afterwards.



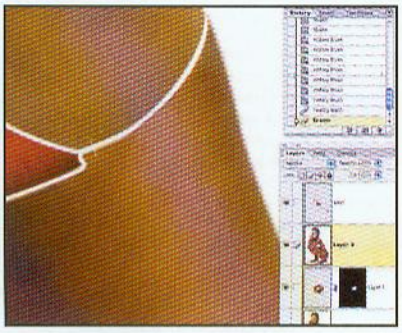
9 Choose the colour you would like the bikini to be and set it as the foreground colour. Go to Edit>Fill Foreground Colour, then choose Edit>Fade Fill. Set the Blending mode to Multiply and reduce the opacity until it looks natural.



10 Go to the Edit menu again. This time choose Stroke. Select white as the colour to stroke, with a width of eight. Since we have locked the transparency of our layer, the outside box would have little effect so choose the box inside. Press OK.



11 Zoom into the image and bring up the History palette. Tick the box to the left of the Fade Fill state. Press Y for the History brush and set the opacity to 100 per cent, then paint back the red wherever a white border doesn't make sense.

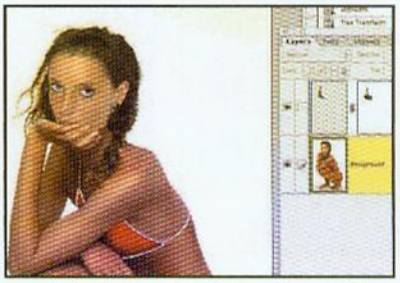


12 Zoom into the image and check if all the transformations and colourings you applied have caused any side effects. Tidy up any imperfections, flatten the image and save.

Part 2: Adding more hair

To ensure that the model's head and body fit together seamlessly, we need to add some hair around the shoulders and the neck...

1 Open up the image head-section-03.tif that contains the hair. Make a selection around the left side and drag it over into the main image. Decrease the opacity until you can see through the layer, then transform it on top of the original head.



2 Apply a layer mask to the layer, then switch the layer with the hair off and draw a path along the hand. Load the selection and feather by one pixel. Now switch the layer above on again and fill the layer mask with black to make the hand come through. Fill the gap in the hair in the top left by using the duplication process.

3 Switch back to head-section-03.tif and select the right part of the hair and drag it into the main image. Lower the opacity and transform it so that it fits into the image. Use the earring as a guideline here. We want to have the hair behind her shoulder this time so make a path around the shoulder, load it, feather by one pixel and then cut off the hair.

4 Switch off the new hair layer and make a selection around the hair along the neck. Duplicate it to the left, choose Free Transform, hold down Ctrl while clicking the window and choose Distort. Now distort the hair closer to the neck.

5 Zoom into the hair and check for the areas where the layers meet. If any hair looks unnatural, connect the layers in a convincing way. Remember that you can press Command-Ctrl to see which layer you're looking at.

6 We need to fill the area between the model's forearm and upper arm (shown above) with hair. Copy and paste a large enough section from another area of hair. Draw a path around the area and move the copied hair into position so that it covers the white space. Load the path, feather by one pixel, select Invert and press Backspace.

Part 3: Adding extra elements

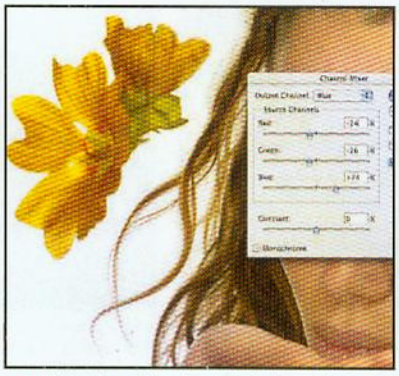
To add more colour and focus to our image, we'll insert a flower into our model's hair...

Merging layers

When it comes to merging layers that all have different blending modes, you have to be careful to merge the layers in the right order. If you started from the top layer and then merged down, you would get a different result to what you intended. The same applies if you link layers and then choose Merge Linked from the Layers menu.

If you are ready to merge all layers, choose Flatten Image. If you still want to keep at least one of the layers, start merging from the bottom: first merge the layer above the last layer you want to keep, then the one above that and so on.

1 Open the image flower.tif and make a loose selection around the flower the model is holding, then change to the Move tool and drag the selection over into the main image. Now make a path selection around the flower and the stem.

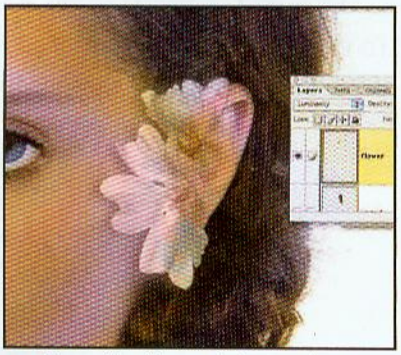


2 The colour of the flower is clashing with the colour of the bikini so change the flower's colour using the Channel Mixer. Use the Blue channel to adjust the colour to yellow – reduce it to about 75 per cent and set the Red and Green sliders to about -25 per cent.

3 Reduce the red areas with the Healing brush. The outcome of the Channel Mixer is a little too dark so press Command-J to duplicate the layer, then change the Blending mode to Screen. Reduce the opacity to about 50 per cent and merge down by pressing Command-E.

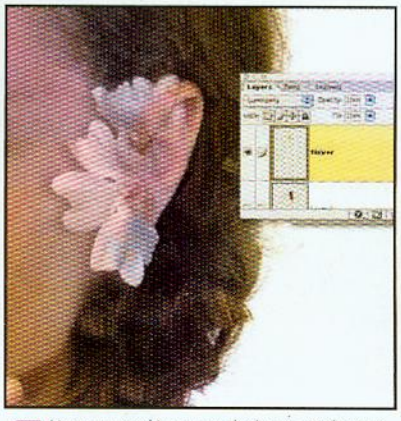
4 The green has now gone too yellow. Bring up the History palette and click the icon next to the state just before the Channel Mixer. Press Y for the History brush, set the opacity to about 75 per cent and paint over the green area of the stem.

5 Move the flower over the ear, then rotate and scale so that it fits in nicely. Remove a little bit of the stem and move it so it looks as if it's tucked in behind the ear.



6 We need to add some shadow in order to make the flower look realistic. Duplicate the flower, click on the original and then click the Transparency icon on top of the Layers palette. Change the foreground colour to a mid grey. Press Alt-Backspace to fill the layer. Since we locked the transparency, only the flower will be affected.

7 Unlock the transparency of the layer. Now move the shadow slightly to the left and apply a Gaussian Blur with a radius of seven pixels. Change the Blending mode to Luminosity and reduce the opacity to about 60 per cent.



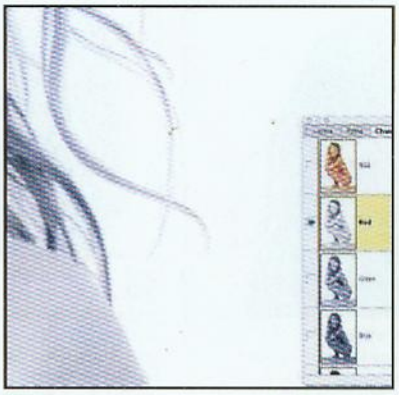
8 Now we need to merge the layers. Make sure you merge the layer with the Blending mode set to Luminosity before merging the layer above or you'll get a totally different effect.

9 Before you merge the flower with the background image, check that it looks natural. Also, move in the lower section a little bit to make the flower look smaller.

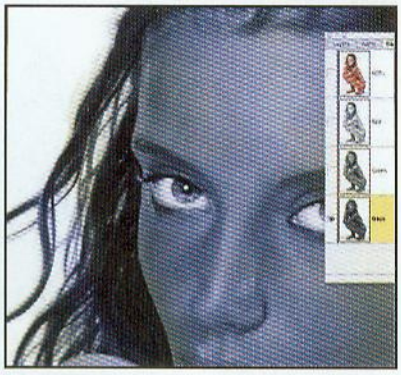
Part 4: Cutting out the foreground

We are going to use channels to overcome the problem of cutting out frizzy hair...

1 Zoom into the image so you can see the hair in front of the white background in close-up. The little strands that go off a main strand are difficult to separate, but they play an essential part in making the hair look natural.

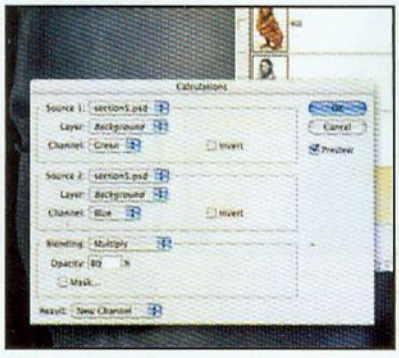


2 Lassos and Path tools are impossible to use for this task and even Extract isn't exact enough. All these methods require precision from the user whereas the Channels mask allows us to create masks from lightness levels.

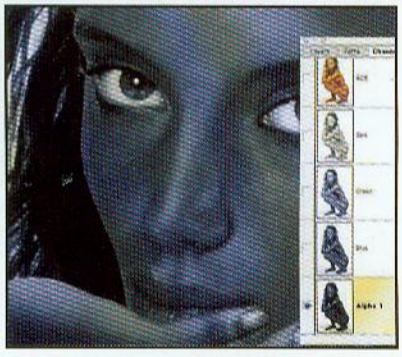


3 Go to the Channels palette and click on each RGB channel individually and investigate how much detail they contain in the hair area. The Blue channel is the darkest and gives good definition but misses out on the light hair and small strands. The Green channel is better for that purpose.

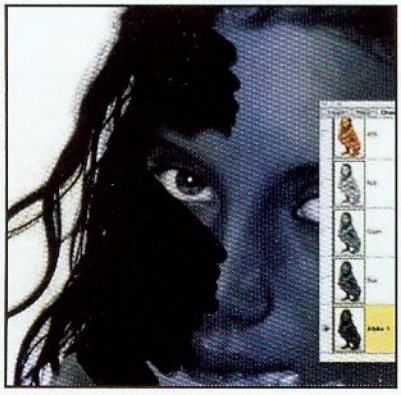
4 We are going to use a combination of the Green and Blue channels. Go to Image> Calculations. Calculations allow you to mix two channels, even if they are from a different image. The result of this mix can be used as a new document, a new channel or a selection.



5 Choose the Green channel from the drop-down menu as Source 1 and choose the Blue channel as Source 2. Now experiment with the various Blending modes to see which applies the most contrast but gives the best definition at the same time. Try using Multiply with an opacity of about 80 per cent.



6 The result is a new channel in the Channels palette, called Alpha 1 by default. We are only interested in the outline of the black area since this is the area that meets the background. Concentrate on the hair first. You want to make sure that all the little stray hairs are picked up by the mask, so darken them and whiten the background.



7 Using the Dodge/Burn tool is an option here, but this doesn't provide enough control. Choose the Paintbrush instead and change the Blending mode to Colour Dodge/Colour Burn and the foreground colour to White/Black respectively.

8 There are different settings for the Burn and Dodge tools so create a Tool preset to switch between them more quickly. Define the Paintbrush for the purpose of bringing out the black: soft brush, foreground colour black, opacity 10 per cent.

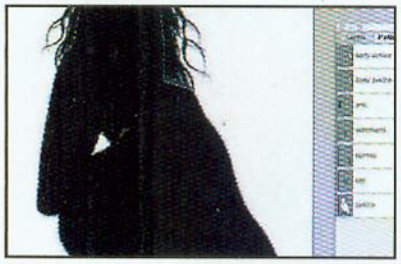
9 Go to View>Tool Presets. Click on the new Tool Preset icon on the bottom of the palette and tick the Include Colour box. Do the same with the Dodge tool but change the settings accordingly.

Part 4: Cutting out the foreground continued...

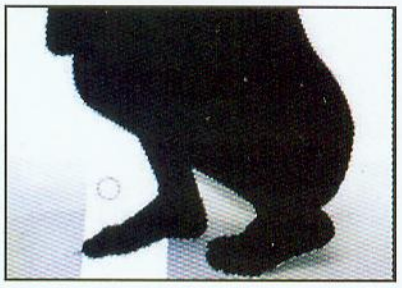
Extracting elements

As good as the Extract filter has become, it's still not good enough for masking frizzy hair, which is one of the most challenging tasks when trying to separate the foreground from the background. Using channels for the task is a much better option because the extraction is based on the lightness levels of the hair rather than on manual extraction techniques. Furthermore, the new channel can be amended at any time; it can be adjusted, blurred or contracted and therefore offers a lot of flexibility.

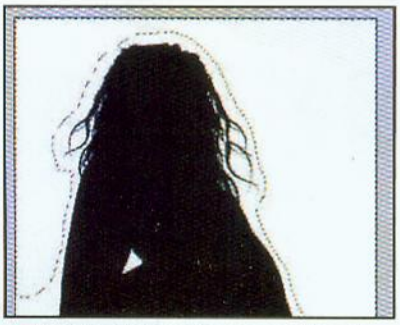
10 Go around the hair and switch between the brushes in Dodge and Burn mode until it is masked perfectly. Create a precise path around the body outline, but just a very loose selection within the head. Save the path as 'Outline'.



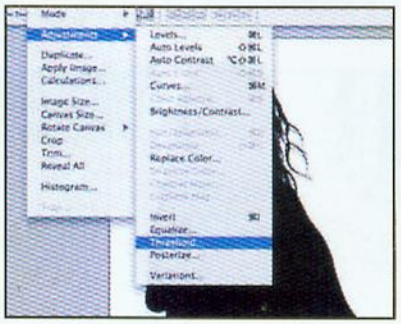
11 Load the path and feather by one pixel. Fill the whole area with 100 per cent black. Invert the selection by pressing Command-Shift-I. In Fit on Screen mode, choose a big, white brush with 100 per cent opacity and 100 per cent hardness and brush over the entire bottom half of the image. This will get rid of any grey levels in the white area. Just be careful not to accidentally brush out the hair.



12 Now we'll concentrate on the head area again. Paint all areas within the head with opaque black, then make a wide selection around the head and towards the edges of the image. Use the same white brush as the previous step and paint over the whole white area to make sure any remaining grey sections are removed.



13 Go along the hair edges one more time and make sure that there are no in-between values around the hair edge. Now check if you have left any grey bits in the picture. To do this, go to Image> Adjust and choose Threshold.

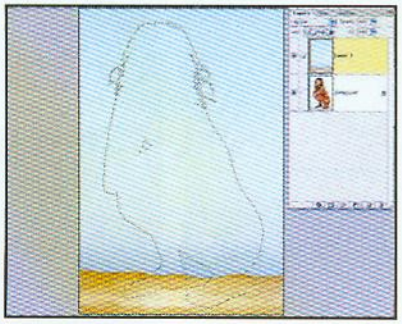


14 Drag the slider all the way to the right. Any grey levels will be translated into black. Click the Preview box to compare. If the shape of the outline changes outside the area where it should, you know that you need to work more on the mask.

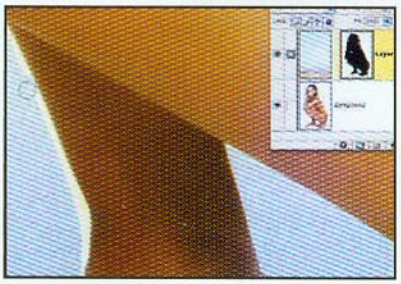
15 When the mask is ready and the Threshold filter doesn't show any unwanted patches, apply a Gaussian Blur with a radius of about 0.4 to the whole Alpha 1 channel. This will smooth the mask and make the edges softer.

Part 5: Bringing in the background image

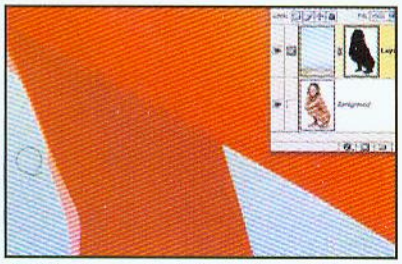
In this step, we'll place our model on a sunny beach and blend her into the image...



1 Open backdrop.tif and drag it into the main image. Go to the Channels palette and Command-click on the Alpha 1 channel. Now go to the Layers palette, make sure the backdrop layer is highlighted and press the Layer Mask icon.



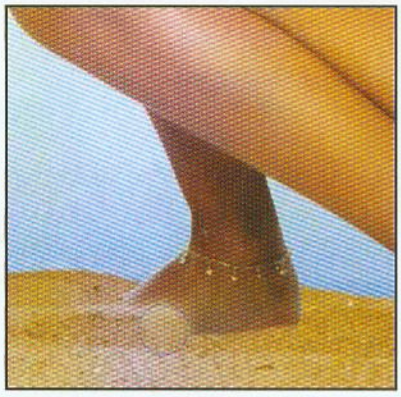
2 Zoom into the image and investigate how the mask has worked. Check the edges of the entire outline of the body. Wherever there is too much of the original background showing, paint with white in the layer mask. Wherever the backdrop seems to overlap the outline of the body, paint with black.



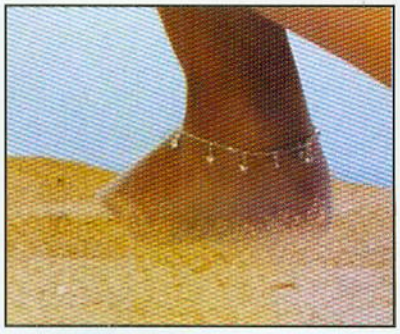
3 Another way to check how the mask has worked is by seeing it on top of the image as a Quickmask. In order to do this, simply press the Backslash (\) key on your keyboard and the layer mask will change into a Quickmask. Again, using black or white as the foreground colour will either add to or remove from the mask. Press (\) to get back into Normal mode.

Using Calculations

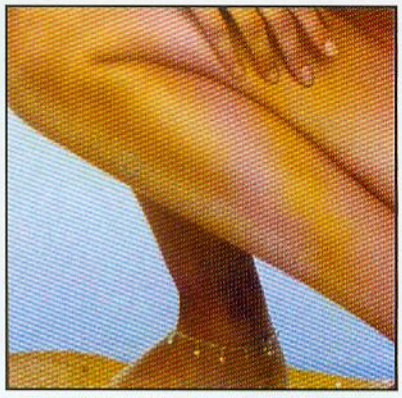
The Apply Image and Calculations commands offer an alternative route to combining layers or channels with exactly the same pixel dimensions. The Calculations option is particularly useful when a new channel is needed because it enables you to pick two sources which you can then combine, producing a result that can be a new selection, a new channel or a new document.



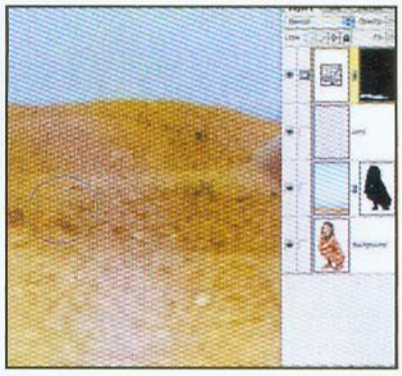
13 We need to work the feet into the sand in order to give the image a natural feel. Click in the layer mask and choose white as the foreground colour. Use various levels of opacity to make the sinking of the feet into the sand look natural.



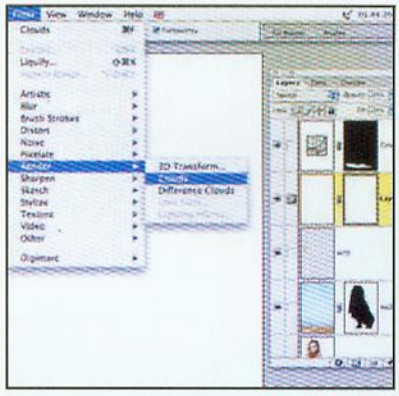
14 In order to create loose sand that you can paint on the feet, create a new layer. Change to a medium soft brush and change the Blending mode to Dissolve and to Flow at about six per cent. Increase the spacing of the brush to about 50 per cent. Sample the colour of the sand by holding down Alt, then paint around the area where the feet meet the sand. Keep sampling various sand colours.



15 Use the same brush with less opacity and a slightly larger size to paint some sand on her left lower leg to give the impression that sand has stuck to it when the model kneeling down. Now use a Gaussian Blur of about 0.4 on the layer.

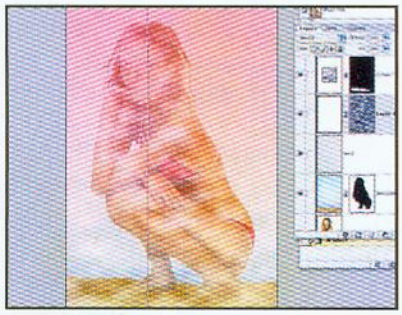


16 Create a new Curves adjustment layer on top of all the other layers and drag the midtones down to darken the sand quite significantly. Immediately fill the layer mask with black, then paint with white to create the impression of a shadow that her body casts on the sand.



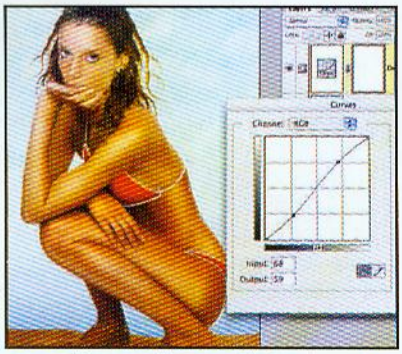
17 Now we'll add some clouds to the sky. Create a new layer on top of the other layers but underneath the Curves adjustment layer. Fill it with 100 per cent white and add a layer mask. Click in the layer mask and go to Filter>Render>Clouds.

18 Click on the layer containing the clouds, bring up the Free Transform window and drag the left and right handles out to stretch the clouds into a more horizontal pattern. Ignore the fact that the body and the sand are covered by clouds too.



19 Make sure the left of the layer is activated, then change to Quickmask mode by pressing Q. Press G to get the Gradient tool and make sure that it is set to go from foreground colour to background colour. With black as the foreground and white as the background, hold down Shift and drag once from the top of the image to the bottom. Press Q to exit the Quickmask, followed by Backspace to delete the resulting selection.

20 To remove the effect from the body and the sand, change to the Channels palette and you should see the layer mask of the current layer called Layer 1 Mask. Command-click in the Alpha 1 channel and invert the selection by pressing Command-Shift-I. Click on the Layer 1 Mask channel and fill the selection with black.



21 Finally, merge all layers and look at the result. To give the body a healthy glow, we'll boost the colours. Bring up a Curves adjustment layer, lift the highlights and pull the shadows down in an S-shape to increase the contrast. You can take the effect one step further by changing the Blending mode to Soft Light. CA&P

SECTION **SIX**

Perfect body: hyper-realism

In our look at hyper-realism, we'll use a photograph of a model and transform her into an Art Nouveau beauty...

Retouching images of models doesn't have to be limited to the more traditional processes that we've been looking at in the earlier chapters in this project, such as making the eyes whiter and clearer, the skin smoother, the lips fuller and so on.

Over the next two tutorials, we are going to create a hyper-realistic image. This will involve transforming a standard studio shot of a model into an Alfonsa Mucha-style Art Nouveau composition. We will also create some appropriate background and foreground elements within *Photoshop* to give the overall impression of a real woman living in an Art Nouveau world.

Please note that a good level of experience with *Photoshop* is required to complete this tutorial. ›

Files on disc
The files needed to complete this tutorial are in the Section 6 folder on your cover CD.

Part 1: Tidying up

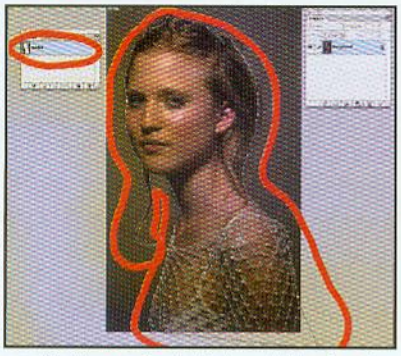
We start by retouching the photograph, removing blemishes and giving the overall appearance a fresher look...

The right face

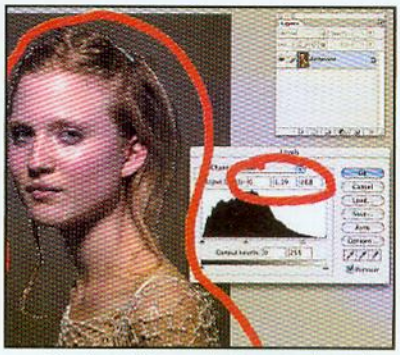
Getting the right model is half the formula for making a stylised illustration work. Get the wrong person and it doesn't matter how great your techniques are because the final results won't have achieved your goals, so spend some time sourcing or selecting the right look.

Fine details

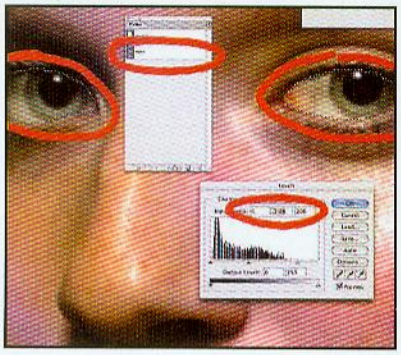
Being very accurate with your clipping, cloning or just touching up is not that important when working on a more illustrative concept, especially compared to a straight photograph that might be used for the cover of *Vogue* magazine, for instance. There is a lot of give and take here when working in this style so don't spend too much time on the finer details as most of it won't show through in the final illustration.



1 Start by opening the file jcmodel1.jpg from the CD. Create a Clipping Path using the Pen tool from the Tools palette. Don't worry about creating a very accurate path because we will be adding a black stroke to the model nearer the end of the tutorial. Once you have created a path, call the Work Path layer in the Paths palette 'Model'.

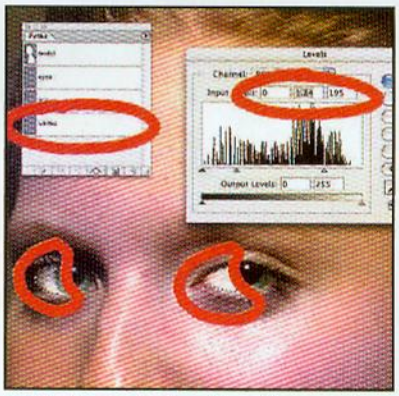


2 Turn the path into a selection using the Make Selection button at the bottom of the Paths palette. Open the Levels dialogue box from Image> Adjustments>Levels, set the Input Levels to 0, 1.19, 208 and click OK. As you can see, this has brought colour and brightness to the model's skin tone. Now deselect with Select>Deselect.

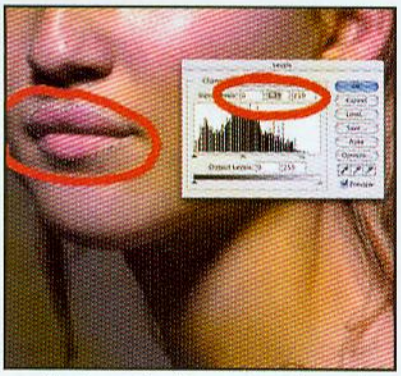


3 We need to create a path around her eyes to boost the overall brightness before working on each of the individual elements that make up the eye. Create a path around both eyes and rename the Work path in the Paths layer as 'Eyes'. Turn the Path into a selection and set the Input Levels to 0, 1.20, 206, then click OK and deselect.

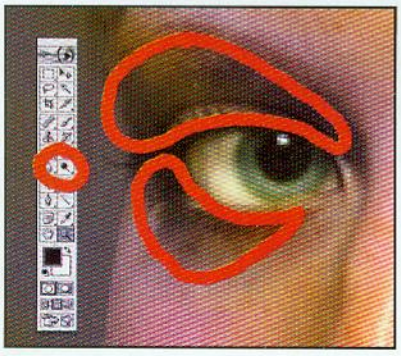
4 Create a set of paths around the iris of the model's eyes and name the Work path in the Paths layer 'Iris'. Turn the paths into a selection and feather it with Select>Feather. Set the Feather Radius to about three pixels. Now go to Image>Adjustments>Hue/Saturation, set the hue to 71 and the saturation to 55 and then click OK. Deselect the selection.



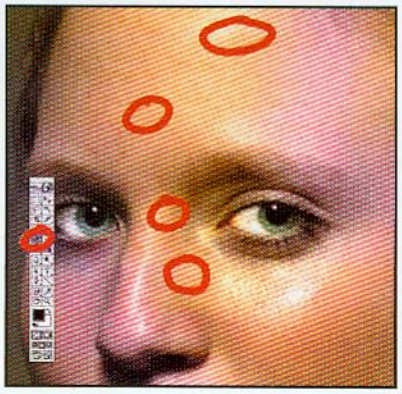
5 Do the same for the whites of her eyes and create a path called 'Whites'. Turn it into a selection and then feather it to around two pixels. Open the Levels dialogue box and set the Input Levels to 0, 1.84, 195 and click OK. Deselect again.



6 Moving on to her lips, create a path around them and rename the Work Path layer in the Paths palette 'Lips'. Turn it into a selection and then feather to around two pixels. Once you've done that, open the Levels dialogue box and set the Input Levels to 0, 1.15, 219. Click OK.



7 Now we'll use the Dodge tool on the Tools palette with a brush size of around 27 pixels, Exposure set to 50 per cent and Range set to Midtones. Dodge around the lower part of her left eye to get rid of the shadow in the left corner, then do the same above her eye so it all looks a bit lighter and not so dark and heavy. See above for reference.



8 Switch to the Clone tool. With a brush size of around 27 pixels and Flow and Opacity set at 100 per cent, clone the blemishes pointed out in the above picture. Make sure you clone a section next to the blemish to get a smooth, clean effect.

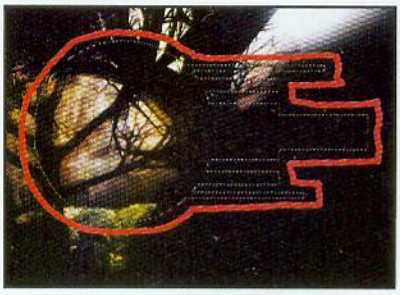
9 Staying with the Clone tool, remove the hair clip on top of her head and use the same settings as the last step to clone out using the hair directly next to the clip.

Part 2: Creating a background

Using a pre-rendered 3D image, we will compose and edit a background in *Photoshop* to suit our style of illustration...

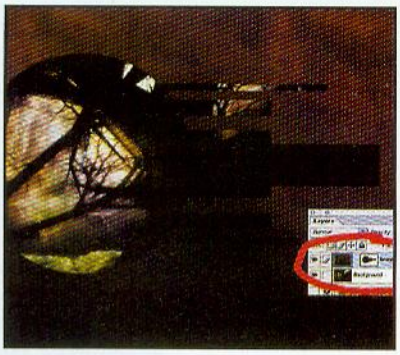
Composition

Like traditional painting, this tutorial starts at the bottom and works its way up with regard to composing the elements. While working our way through the stages, we see the background elements and then work our way up to the foreground elements. This also provides a more organised illustration, which is especially helpful when it comes to editing or amending.



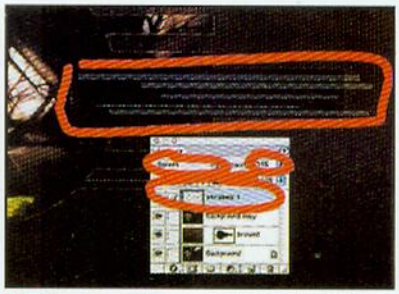
1 Open background.jpg. Here we have a pre-rendered forest scene created in Cinema 4D that will serve as our main backdrop. You may want to use your own background. If so, just follow the same steps, though make sure you select quite a dark image. Using the Elliptical and Square Marquee tools, create the shape above or similar. Once you have drawn a circle selection, switch to Square Marquee and press Shift while drawing to combine the selections. Again, see above for reference.

2 Go to the Paths palette. With our Shape selection, click the arrow at the top right of the palette so we have access to the Make Work path. Select that, then in the next dialogue box make the tolerance 0.5 and rename the layer 'Shape 1'.

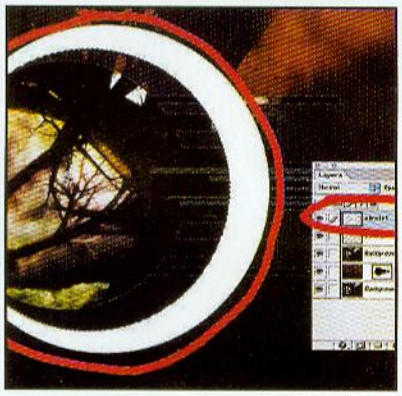


3 Turn the Shape 1 path into a selection, then use Select>Inverse to invert the selection. Open background2.jpg from the CD, Select>All and copy it. Going back to the background1 document, go to Edit>Paste In To. Once that has been done, rename this new layer Brown 1. See the image above for reference.

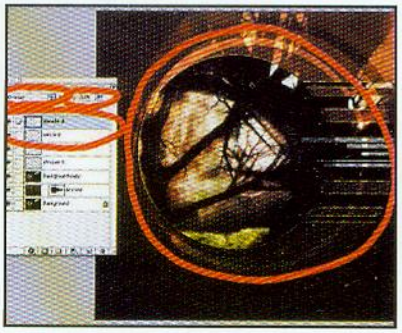
4 Go down to the bottom of the Layers palette and duplicate the background layer. With the new layer, drag it to the top of the Layers palette so it's the top layer. Now set its Blending mode to Overlay and its opacity to around 45 per cent.



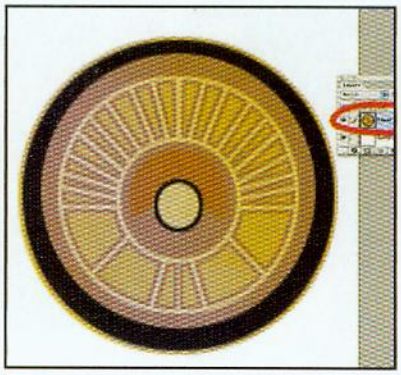
5 Create a new layer and call it 'Strokes 1', then set your foreground colour to R 175, G 151 and B 36. Go back to the Paths palette and select the Shape 1 path and turn it into a selection. On the new layer, stroke it to around two pixels with Edit> Stroke. Staying on this layer, create a few long, horizontal, rectangular shapes and stroke them as we did previously, then fill the stroke's shapes with 50 per cent white. Now set the Layer Opacity to 50 per cent and its Blending mode to Screen.



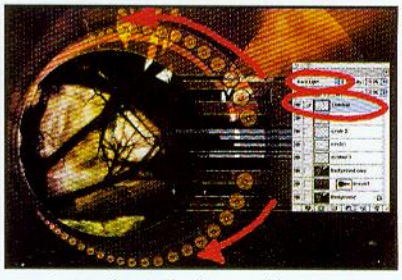
6 Create another new layer and call it 'Circle 1'. Using the Elliptical Marquee tool, create a white circle, then create another selection within that circle and delete it so the circle resembles the shape above.



7 Turn the Circle 1 layer's Blending mode option to Overlay. Using the same process as the last step, create two more layers, name them 'Circle 2' and 'Circle 3' respectively and create a number of these circle shapes at different sizes and transparencies. See above for a sample, but do experiment and even add a few keylined stokes to the shapes.



8 Now create a new document that's 5cm wide and 5cm high, at 100 pixels per inch. Create a new layer and make a flower emblem using the Elliptical Marquee tool and the Pen tool. Use a number of colours, but keep the Colours palette within yellows, browns and tans.



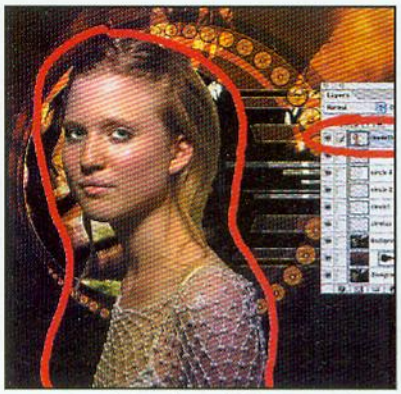
9 Copy and paste the flower emblem into our illustration as the top layer and call this layer 'Emblem'. We will duplicate this a number of times, so follow the shape of one of the circles above. Duplicate the original layer and reduce it using Edit>Transform>Scale. Position the new one below or above, depending on which route you took first. Do this several times until it looks like the image above, then link the copied Emblem layers with the original in the Layers palette and Edit>Merge Linked. Switch the Blending mode to Hard Light.

Part 3: Adding our model

We'll add the model, give her more hair, plus a few keyline strokes so her look is in keeping with the Art Nouveau feel...

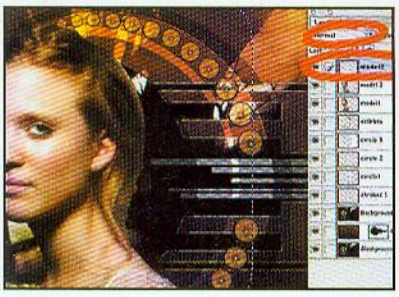
Blending modes

Experiment if you have the time and really push the Blending modes to their limits. This is where the real excitement happens in *Photoshop* and it's where the 'happy accidents' can happen, leading to some creative and unexpected results.

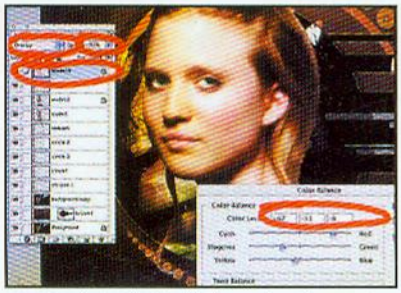


1 Let's go back to the model document and use the path we created called Model to create a selection. Copy and paste her into our main illustration as the top layer and call her 'Model 1', Position her as in the picture above.

2 Duplicate the Model layer and select the Lock Transparency button at the top of the Layers palette. Go to Filter>Gaussian Blur and set the radius to around 7.5 pixels and click OK. Open the Hue and Saturation dialogue box, set the saturation to -51 and then click OK. Now set the Blending mode for this layer to Overlay. Rename this layer 'Model 2'.



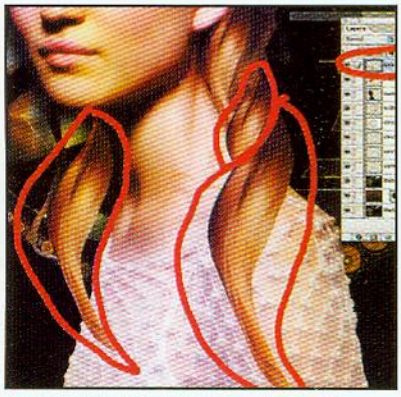
3 Duplicate the Model 2 layer. The Lock Transparency button should still be selected, which is fine. Now go to Edit>Fill and fill the layer with white. Just the model will be filled in because of the Lock Transparency. Switch the Blending mode back to Normal and set its opacity to 70 per cent. Now switch off the transparency option, create a Square Marquee selection and feather to around 55 pixels. Delete part of the white file and rename this layer 'Model 3'.



4 Duplicate the Model 1 layer, drag the copy to the top and rename it 'Model 4'. Switch on the Lock Transparency button, then use Filter>Noise> Median to soften the original image and set the radius to around nine pixels. Set the Blending mode to Overlay and the opacity to around 52 per cent. Use Levels to lighten the image – set the Input Levels to 0, 1.98, 195. Open Image>Adjustments> Colour Balance and set Tone Balance to Midtones and the Input Colour levels to +67, -33, -8.

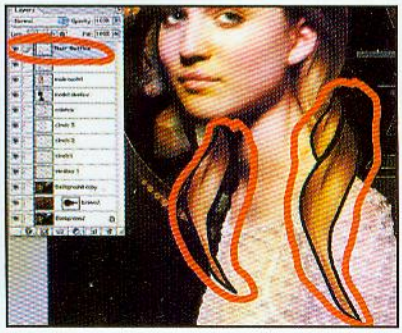
5 Now select the Model 1 layer and link it with the Model 2, 3 and 4 layers. Merge these together. Duplicate that layer and rename the Model Copy layer 'Main Model', and the original Model 1 layer 'Model Shadow'. Staying with the bottom of the two, switch on the Lock Transparency button at the top of the Layers palette and fill with black. Switch the Blending mode to Hard Light and offset the shadow towards the left of the top model layer so that it looks like a drop shadow. Use Gaussian Blur with a pixel radius of around 15.7.

6 Go back to the Main Model layer on top of the Layers palette and use the Pen tool to make a path around a long selection of her hair. Below her ear will do. Now copy and paste it and rename the layer 'Hair 1'.



7 Duplicate the layer two more times and position and scale the hair as in the image above. Once you have done that, merge the three layers together and make sure that the layer is still called Hair 1.

8 Merge the Hair 1 layer with the Main Model layer, making sure the layer name is still Main Model – rename it if necessary. Hold down Control on your keyboard and click on the layer thumbnail of Main Model. Highlight Select Layer Transparency from the drop-down menu that appears. This should now create a selection around the whole of the model.



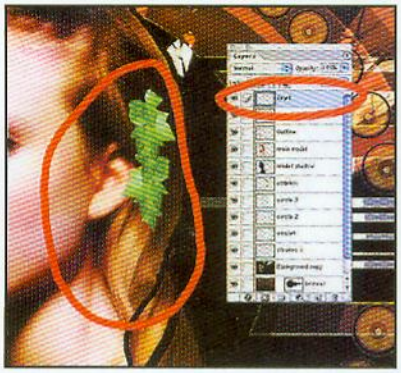
9 Create a new layer and call it 'Outline', then stroke the selection with the colour R 24, G 17, B 15 at about nine pixels. Now create another new layer and call it 'Hair Outline'. Using the Pen tool, create a number of paths around the hair we added. Create a selection of these and then stroke them as we did in the last step. Experiment here and add more complex hair strands and shapes.

Part 4: Adding foreground elements

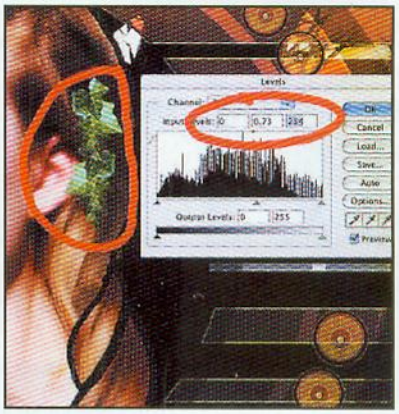
We'll now add the foreground elements for the finishing touches, such as a rendered 3D flower and some ivy...

Alfonsa Mucha

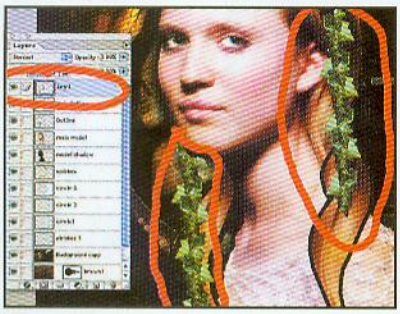
Alfonsa Mucha, 1860–1939, was a celebrated Art Nouveau artist. He was also a great commercial artist who worked on calendars, prints, magazine titles and book illustrations. Acquire and research as much as possible about the subject you are drawing upon for reference, especially if you are adopting a style other than your own.



1 Start by opening ivy.psd, selecting Layer 1 from the Ivy Layers palette and dragging it into our main illustration of the model. Make sure the ivy is at the top of the Layers palette. Rename the layer 'Ivy 1'. Now use Edit>Transform>Scale to position and resize the ivy so it looks like the image above.

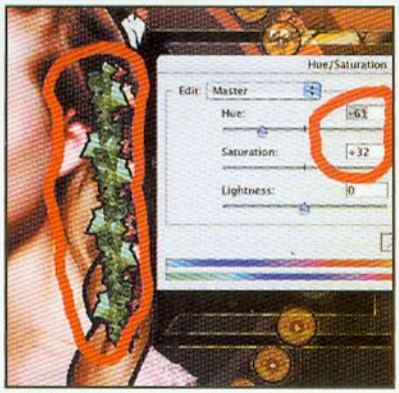


2 Using the Colour Balance dialogue box, set the Midtones Colour Levels to +82, -81, -3. Open the Levels dialogue box and set its input levels to 0, 0.73, 254. This gives the ivy a more realistic colour.

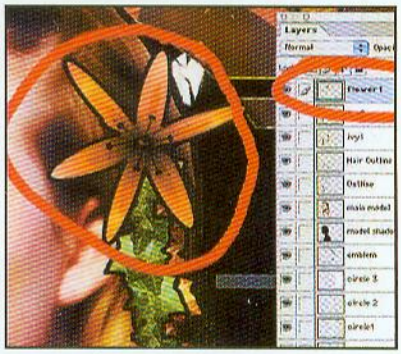


3 Duplicate the layer a number of times so we can extend the ivy down the model's hair. Merge the length, duplicate it and move it over to the left of the model so it looks like it's running down the left side of her head. You will have to use the Pen tool to delete the top part of the ivy on this side so it looks like it is coming from behind her head. Finally, merge all the ivy layers together and call the layer 'Ivy 1' again.

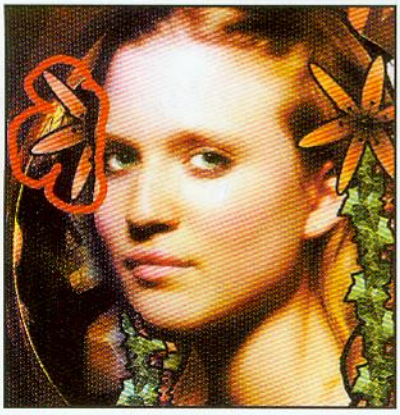
4 Create a selection around the ivy using the Select Layer Transparency selection and then stroke it with the same colour we used around the model, using a five-pixel width.



5 Duplicate this layer and call it 'Ivy 2', then go back to the Ivy 1 layer and set the Hue and Saturation to hue -61, saturation +32. Click OK and slightly offset this layer to the Ivy 2 layer so that it looks like this ivy is behind the green ivy.

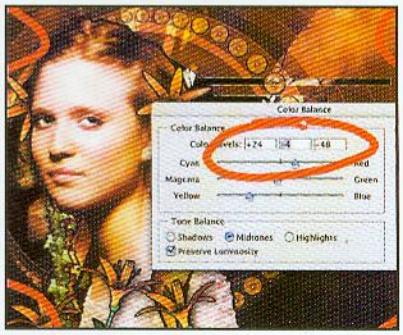


6 Open flower1.tif and go to Select>Load Selection and Source should show flower1.tif and Channel should show Alpha 1. The operation should be set on New Selection. Copy this and then paste it as the top layer in our illustration and call it 'Flower 1'. Resize it to a similar size to that shown above, then stroke it as we did with the ivy.



7 Duplicate the Flower 1 layer as we did for the ivy and place the duplicated flower layer to the left. Place the layer in the Layers palette below the Main Model 1 layer. See above for the positioning.

8 Open flower2.tif and use the techniques shown in previous steps to place the flower at the bottom of the illustration, stroke it and give it a drop shadow. Do this a number of times.



9 Now we have created a similar image to the opening illustration for this tutorial. Have a go at adding more elements and ornate shapes to fill out the edges of the illustration. Once you have done that, flatten the image and set the Colour Balance colour levels to +24, -4 ,-48 to give the overall image a warmer feel. Note that most stages of this tutorial are supplied on the CD. CD-P

SECTION **SEVEN**

Perfect body: hyper-realism 2

In the second part of our hyper-realism tutorial, we use another photograph of the same model and transform her into an alluring, vamp-style character...

They say that a lot can be achieved from little, and through this tutorial we will discover that the most complicated-looking illustration is often the simplest to do. With minimal colour palettes and a heavy use of symmetry we will achieve a complex look for our model that tips its hat towards the likes of H. R. Giger. Using just *Photoshop 7*, some simple 3D renders and a photograph of our model, this chapter will enable you to create a similar image to the one here. Note that a good level of experience with *Photoshop* is required to complete this tutorial.

Expertise provided by Jason Cook. You can contact Jason at [e] jc@jacey.com or visit his site at [w] www.jasoncook.co.uk

Files on disc
The files needed to complete this tutorial are in the Section 7 folder on your cover CD.

Part 1: Basic facial enhancements

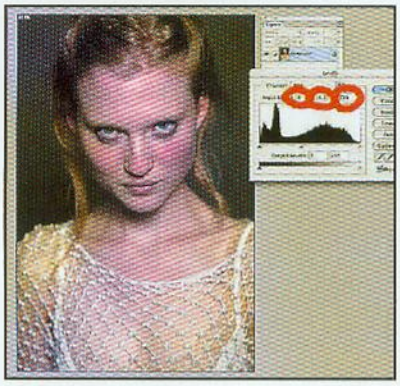
We take the original studio photograph of our model and make a few simple corrections to her skin and eyes...

Modelling

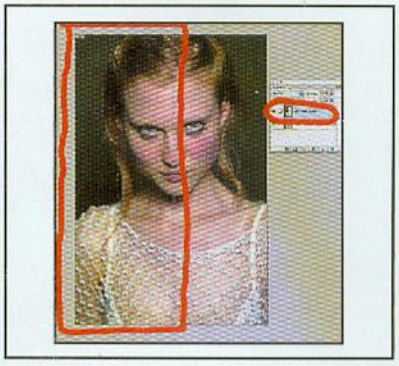
You really don't need high-end studio shoots – any good photograph of a model who is well lit with no heavy shadows will do. Use a friend or a family member and experiment with them, but make sure the quality of the scan or digital camera file is of the sharpest and highest resolution possible. Working with a good quality, clean, sharp image is always beneficial. It's easy to downgrade the quality of the image but it's a lot harder to upgrade it.

Making up

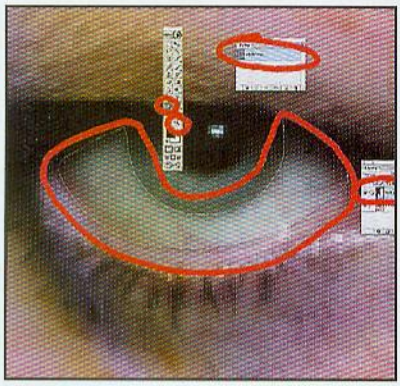
Look through magazines for reference – if you see something you like, use it. As you become more experienced with *Photoshop* you should actually find yourself not worrying too much about make-up as you will be able to apply it in *Photoshop*.



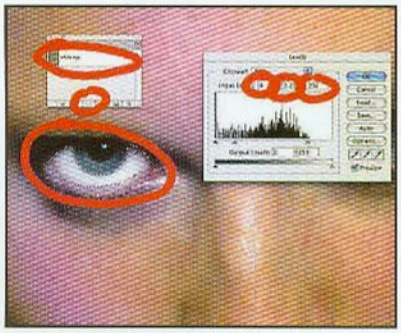
1 Open model2.jpg from the CD. Using Image>Adjustments>Levels we will give the overall image a lighter look. Within the Levels dialogue box, set the Input Levels to 0, 1.27, 229 and then click OK. This will bring the model's skin tones out a lot more, as well as softening them. Notice how her eyes have more clarity now too.



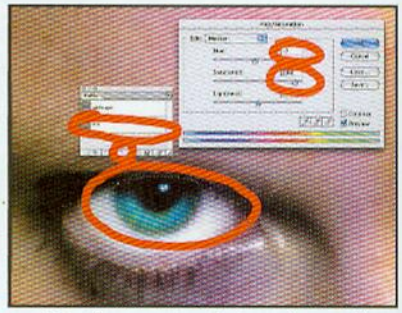
2 Using the Rectangular Marquee tool from the Tools palette, select half of the left side of her face, then Edit>Copy and Edit>Paste. Rename the new layer in the Layers palette 'Left Side Face'. You can use a guide to help you if you are unsure here. Choose View>Rulers and then use your cursor to drag a guide from the left-hand side ruler and place it about 11.71cm into the picture.



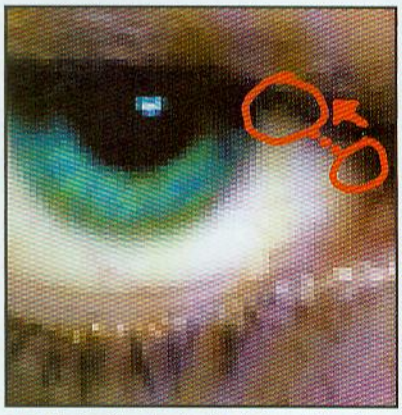
3 Working with the new layer, use the Zoom tool on the Tools palette to zoom into her left eye and clean it up a bit and make it more vibrant. Select the Pen tool once you have zoomed in and make a clipping path around the white of her eye. In the Paths palette (Windows>Paths), rename the work path 'White Eye'.



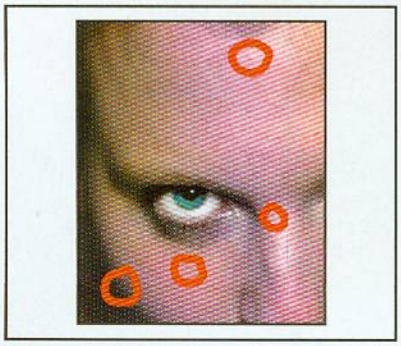
4 Press the Make Selection button at the bottom of the Paths palette to turn our clipping path into a selection. Now Select>Feather and set the pixel range to 2 – this will soften the blend when making her eye lighter. Use the Levels dialogue box to brighten the white of her eye. Set the Input Levels to 0, 2.29, 202 and then click OK. Deselect the selection by going to Select>Deselect.



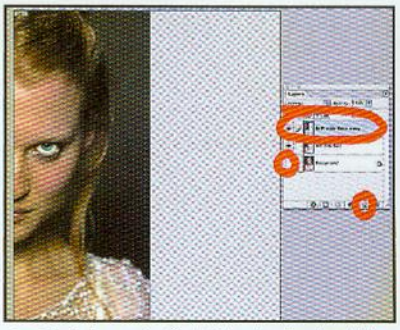
5 We will now create a clipping path around her iris and make the colour more vibrant. Using the Pen tool again, create a path around the iris and rename the path 'Iris'. As before, turn the path into a selection and feather it to around 2 pixels. Now use Image>Adjustment>Hue and Saturation to set the hue to -7 and the saturation to +83. Click OK when you've done this and then deselect the selection using Select>Deselect.



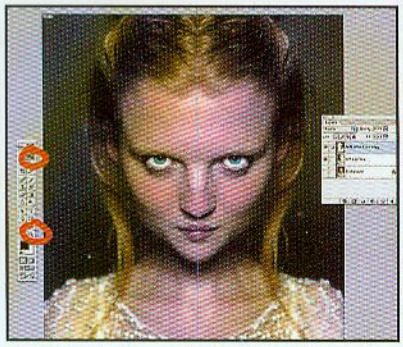
6 Use the Clone tool on the Tools palette with a brush size of around 5 pixels to clone out the black mark in the white of the model's eye. Use a section to the right of the black mark to clone.



7 Using the Clone tool again, we will clone out a few blemishes on her face – see above for a reference to which parts to clone. You may want to select a larger brush size for the Clone tool to make the blend more natural and make sure the brush has a soft edge.



8 To help us get a feel of the direction in which the model's face is going, we will duplicate the left side of the face layer by dragging the layer down to the Duplicate Layer button on the Layers palette. Use Edit>Transform>Flip Horizontal to help join the two halves together, then switch off the background layer by deselecting the Eye icon.



9 Using the Move tool, drag the copied layer to the right of our document window and place the two halves together. You can use the guides to help you place it, and also use the Zoom tool if necessary. See the file model2.psd on the CD for reference to the positioning.

Part 2: Altering the background and face

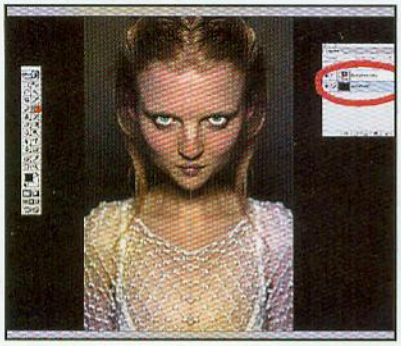
In this section we will use the Gaussian Blur filter and Blending modes to make changes to the background and the overall feel of the model's skin tone...

Symmetry

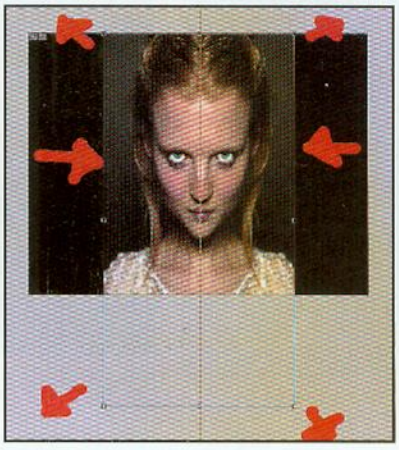
Duplication of layers, and especially the duplication of layers to be used as symmetrical counterparts, is one of the best ways to make an illustration look attractive and a it's very good way of working extremely fast. Be careful though – it can look very obvious and it can also look unnatural at times, so spend some time experimenting.

Colouring in

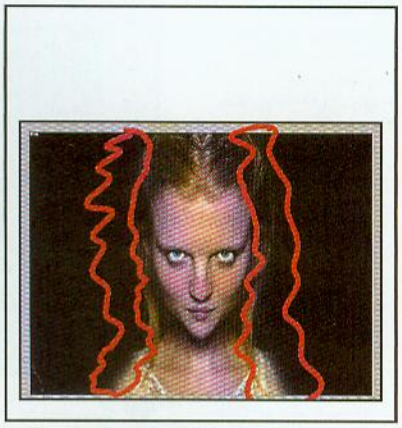
Decide on which colour palette you want to aim for at an early stage. Applying hue and saturation is a good way to change the colour palette of an image at a later date but you can suffer with some ugly effects.



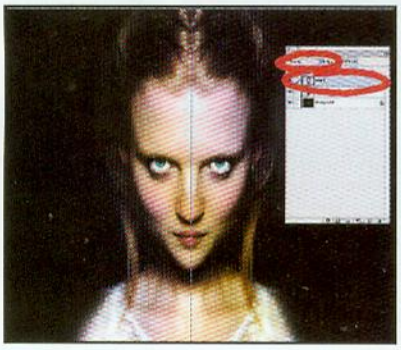
1 Start by flattening the document by going to Layer>Flatten Image, then duplicate the Flatten layer. Select the bottom layer again in the Paths palette and fill it with a black colour using Edit>Fill. Now go to Image>Canvas Size and extend the canvas width by adding an extra 22cm. You may need to fill the background layer with a black colour again, depending on your background colour in the Tools palette.



2 At the moment the model is looking a bit broad in the face so we will Edit>Transform>Scale the copied layer. Scale her face and enlarge it so that it resembles the picture above.



3 Using the Eraser tool, we will erase parts of the background to the left and right of her head. Use a large, soft brush for this (around 300 pixels). Don't worry if you erase into her hair as this will help with the soft look of the overall image.

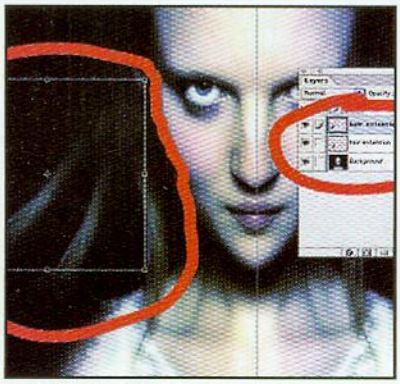


4 Duplicate the layer and rename it 'Blur 1'. Now, using the Gaussian Blur filter (Filter>Gaussian Blur), set the pixel radius to around 11.4, then set the Blending mode for the blurred layer to Overlay in the Layers palette.

5 Go back to the layer below the blurred one. We need to change the hue and saturation so click the Colourise button and then set the hue to 224 and the saturation to 29. Click OK.

6 Go back to the Blur 1 layer and use the levels to bring the model's skin tone out even more. Set the Input Levels to 0, 0.86, 239 and then click OK. Now flatten the image again.

7 Using the Lasso tool, make a rough selection around one of her hair strands. Try to avoid going into her shoulder and her cheek. Once you've made the selection, feather it to around 22 pixels and then copy and paste. Rename the new layer 'Hair Extension'.



8 Move the hair extension to the left and use Edit>Transform>Rotate to rotate the hair as in the image above. Duplicate the Hair Extension file and rotate once more. Again, refer to the image above, but also experiment and create as many variations of the Hair Extension as you can.

9 Now link the two Hair Extension files together in the Layers palette using Layer>Merge Linked. Duplicate that layer and flip it horizontal with Edit>Transform>Horizontally and move the layer over to the right of her head. Now flatten your image. As well as referring to the image above, see the files model2b.psd and model2c.psd on the cover CD for a more detailed look at this process. >

Part 3: Developing the face

Here we begin to add some of the marks to the model's face using other images and 3D renders to achieve the desired effect...

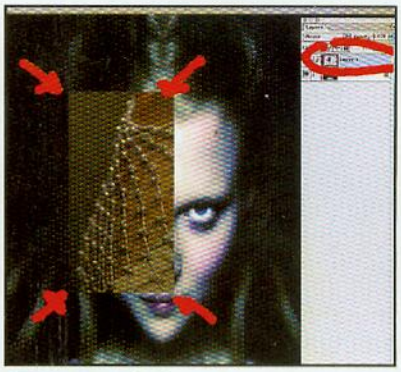
Bits and pieces

Sometimes you may find that there are aspects within the image that you can reuse as an entirely different element. Take the model's dress, for example. By using elements of that we can create some great facial effects with the simple use of the Blending modes.

Clipping

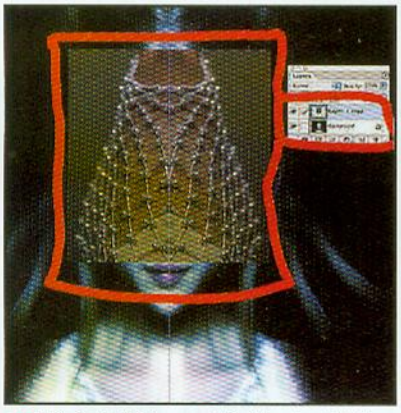
When you think of retouching faces or working with head shots for magazine covers and the like, clipping paths always seem to be the way forward for working around the hairline or the head. In this case, we have opted for a simple erasing method, which is helped by the dark background and the softness of the image.

1 Open dress.jpg from the CD and use the Marquee tool to make a selection in the image. Using the Square Marquee tool as in the image above and then copy it .

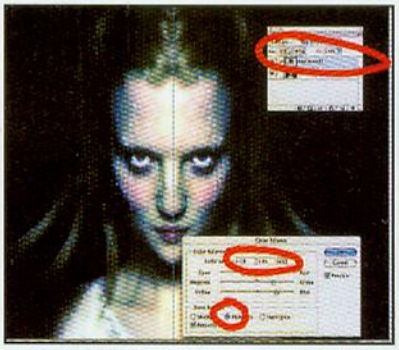


2 Now paste the dress image into our original document of the model's face and use the Scale command to scale it down to the size and shape shown in the image above. Don't worry if your image doesn't look exactly the same though.

3 If the dress image overlaps slightly in the middle, use the Square Marquee tool to select the overlap and then delete it. You still may want to delete part of the right edge of this layer because it won't be sharp after the scaling process and this could be cause problems in the next step because we are now going to duplicate the layer and make the duplicate symmetrical.



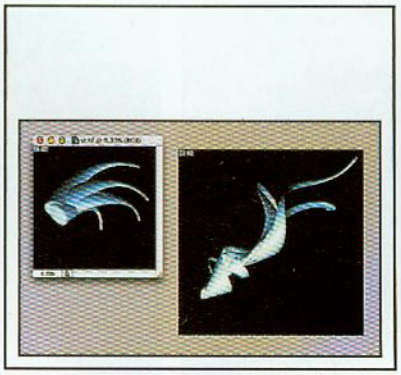
4 Duplicate this layer and flip it horizontally, then move it over to the right of the image, link the two dress images together and merge them. This is the same process that WE used for the face earlier. Rename this layer 'Facemask 1'.



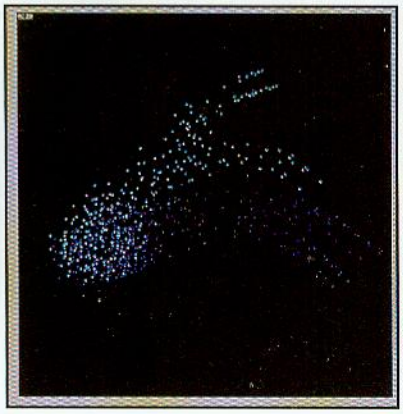
5 Still working with this layer, set the Blending mode to Soft Light in the Layers palette. Using the Levels dialogue box, set the Input Levels to 0, 0.76, 255. Now use the Colour Balance dialogue box (Image>Adjustments>Colour Balance) to change the colour of this layer slightly. Set the colour levels in the midtones to -38, +45,+53 and then click OK.

6 The next step is to use the Eraser tool with a brush size of around 250 pixels. We need to feather the edges of the Facemask 1 layer so that it looks like it's blending into the face more. See the image above for reference.

7 Select the bottom layer in the Layers palette and use the Colour Balance dialogue box to set the Colour Levels of this layer in the midtone range to +23, 0, +35. This will give the image a more ghostly blue and surreal feel.



8 If you have access to 3D modelling software, you may want to create some ornate 3D elements like those shown above. These 3D shapes will be used as features over the model's eyebrows, below her chin and as ornamental features behind her head. Don't worry if you don't have 3D software because these images are on our cover CD.



9 As with the last step, have a go at creating some molecular-type patterns and shapes which will be used to create an effect below our model's eyes and over her cheeks. The image above is also provided on our CD.

Part 4: Adding 3D objects

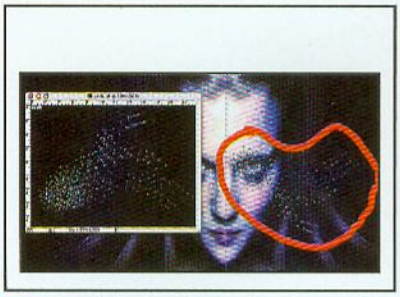
Here we will introduce simple 3D rendered objects that will help us to create a sophisticated effect with ease...

Full of face

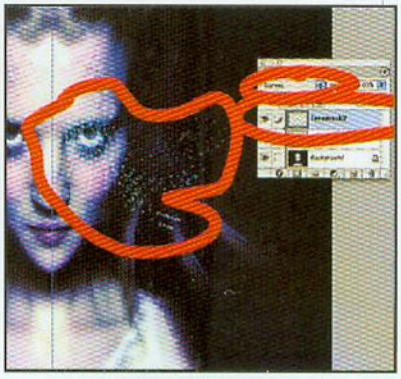
In this tutorial we have worked with both sides of the face, but you may find that that you can save time by working with just one side of the face. When you've completed your work, flatten it, extend the canvas, duplicate it and flip it over.

Three dimensional

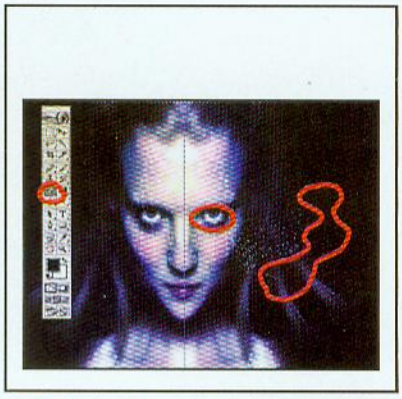
Very simple 3D objects rendered to a similar colour palette as you are working in can help to transform the illustration, but be careful not to overdo it. Just remember that less can be more.



1 Open balls.tif and then make a selection of the balls by going to Select>Load Selection. In the Load Selection dialogue box, it should already have the Document set to balls.tif and the Channel to Alpha 1 because the 3D image was rendered with a channel. Operation should be New Selection. Click OK, then copy the balls and paste them into our model's face document. Now scale and flip horizontally as in the image above and rename the layer 'Facemask 2'.

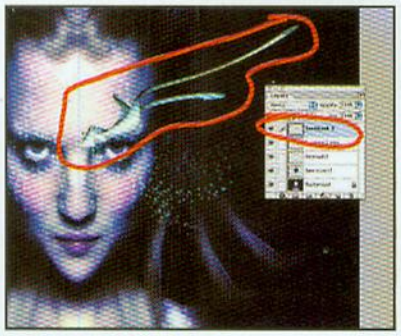


2 Set the Blending mode of the Facemask 2 layer to Screen and use the Gaussian Blur filter to blur the layer, using a radius of around 1.6 pixels. Using the Levels Adjustments, set the Input Levels to 0, 1.43, 221. This will help to bring these elements out a bit more.

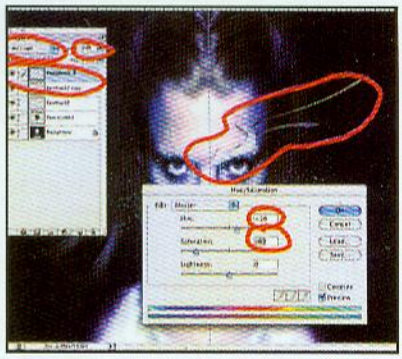


3 Using the Eraser tool with a brush size of about 100, erase the ball shapes that are lying over the model's eyes. You can also erase the ends of the 3D elements in the image to give the impression that they are fading off.

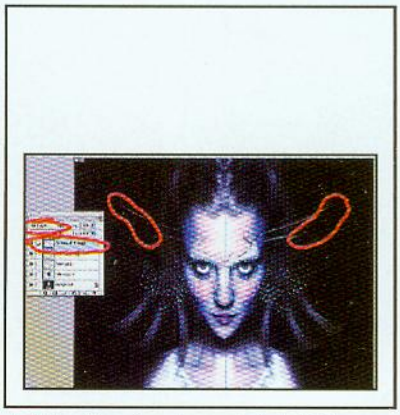
4 We can now duplicate this layer and drag it over to the left part of the image and place it over the eye, but remember to flip it horizontally. See the image above for reference.



5 As with the previous 3D shape, open shape1.tif, make a selection, then copy and paste it into our main document. Use Edit> Transform>Distort to distort the object into the size and shape above. You may want to experiment with this and try other variations. Rename the layer 'Facemask 3'.



6 Now set the Blending mode for this layer to Hard Light and set the opacity to around 79 per cent. This option can be found at the top of the Layers palette. Open the Hue and Saturation dialogue box and set the hue to +16 and the saturation to -69 and click OK.



7 As with previous stages, duplicate this layer and flip it over so it looks symmetrical, then merge the two Facemask 3 layers together. Set the Blending mode back to Hard Light and use the Eraser tool to feather off the ends of the shapes.

8 Duplicate the layer and move it upwards a fraction so the new copied shape is slightly above the old one. Gaussian Blur it to around 5.3 pixels. This will help to achieve the overall ghostly style of the image, with the different elements coming off the model's face.

9 Using the techniques covered in this tutorial, use shape2.tif to create the additional features and shapes below the model's chin and behind her head. Experiment with the shapes and make the background a bit more complicated. You can find this tutorial on the CD if you have any problems or are unsure about any of the steps. cd

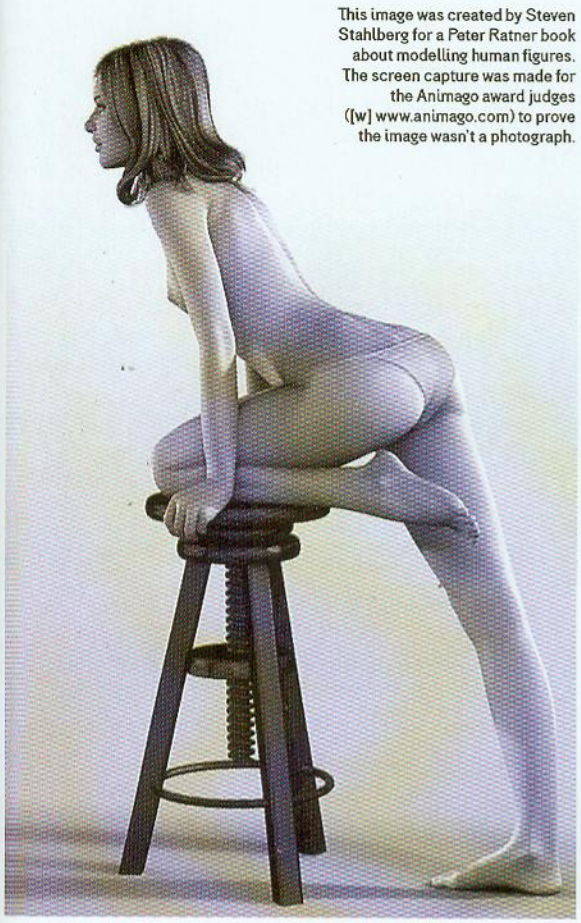
The perfect 3D body

In stark contrast to 2D photographic work, those who work in 3D often add imperfections to create the perfect body. We spoke to those in the field to find out why...

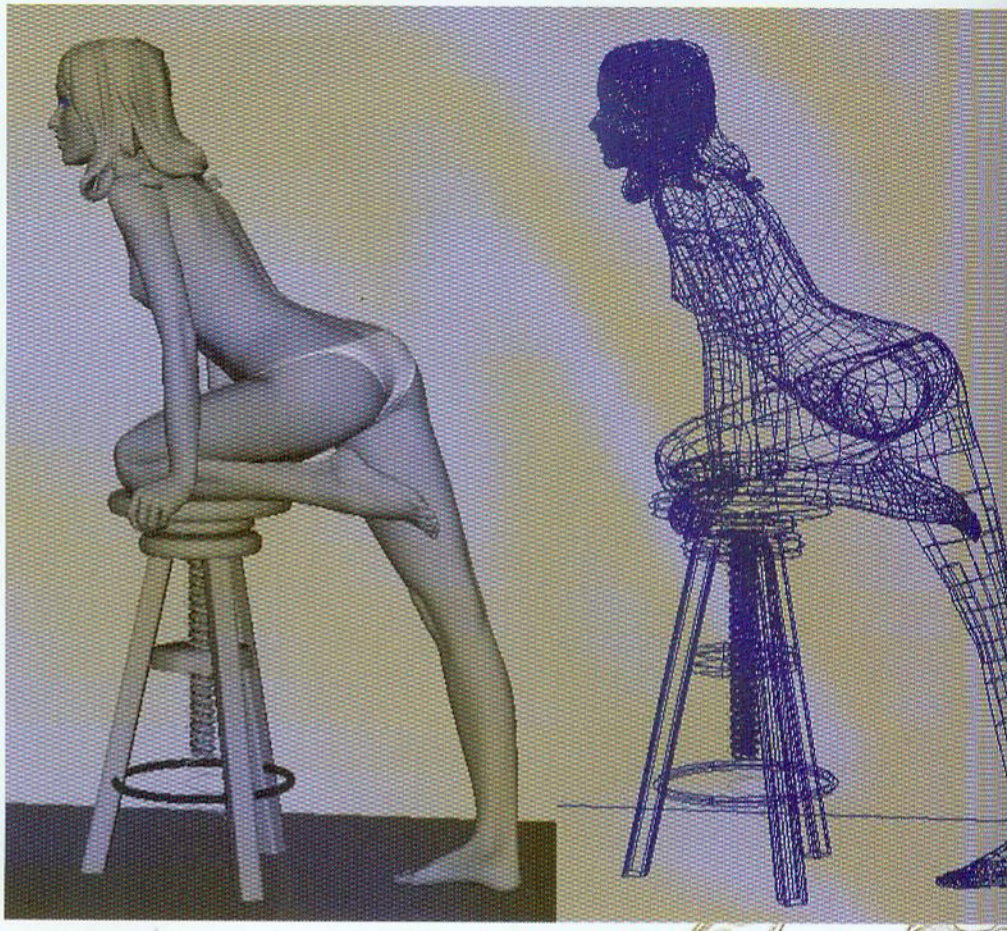
Freelance modeller Frederic Lierman says that, "Imperfection makes perfection." He's not alone in thinking this, which is why you'll often find professional 3D modellers adding imperfections, rather than removing them. "Perfection can be cold, sterile and lifeless," says Rob van den Bragt, Senior 3D Animator at The Mill. "Imperfections add tension and history. The same goes for figures — clothing, faces and poses tell us a lot about people, thereby capturing a viewer's attention."

The golden rule, claims Rob, is to avoid symmetry. "This goes for the body shape and the figure's pose. Everything helps to combat symmetry, such as the addition of scars, freckles, colour differences and messy hair." He believes that while there's nothing wrong with mirroring a model's two halves, once they have been joined together, variations should be added: "Make one shoulder slightly different from the other and skew the nose a little, for example."

However, Steven Stahlberg, Animation Director at Optidigit, warns that this isn't a cure-all. "The perfect body depends on what the project is and 'imperfection' means different things to different people," he says. "Some claim that asymmetry makes a face more



This image was created by Steven Stahlberg for a Peter Ratner book about modelling human figures. The screen capture was made for the Animago award judges ([w] www.animago.com) to prove the image wasn't a photograph.



beautiful. I disagree. It makes little difference one way or another, unless the asymmetry is very noticeable, whereupon a face becomes ugly."

MAKING IT REAL

So perhaps the perfect body in 3D is that which emulates reality in other areas? "It's most important to ensure the form is right to begin with," says Alkamy's Peter Reynolds. "This is achieved in various ways, such as by using body scanners. But the main thing that ties everything together is something crucial to any art form – observation."

Rob van den Bragt agrees, and reckons that creating realistic skin is particularly difficult: "Skin is complex and can end up looking like plastic if you're not careful. It also changes across the body. For instance, creases, pores, colours, hairs and shininess vary significantly between the face and arms."

Close observation shows that skin changes when bones are close to the surface, and that light shines through the body, which is mainly noticeable on the fingers, ears and nose. Eyes can also be problematic.

"People automatically focus on eyes," Rob says. "A sparkle helps keep them alive, as does constant movement if you're animating a figure. The texture should be detailed, specular and have depth."

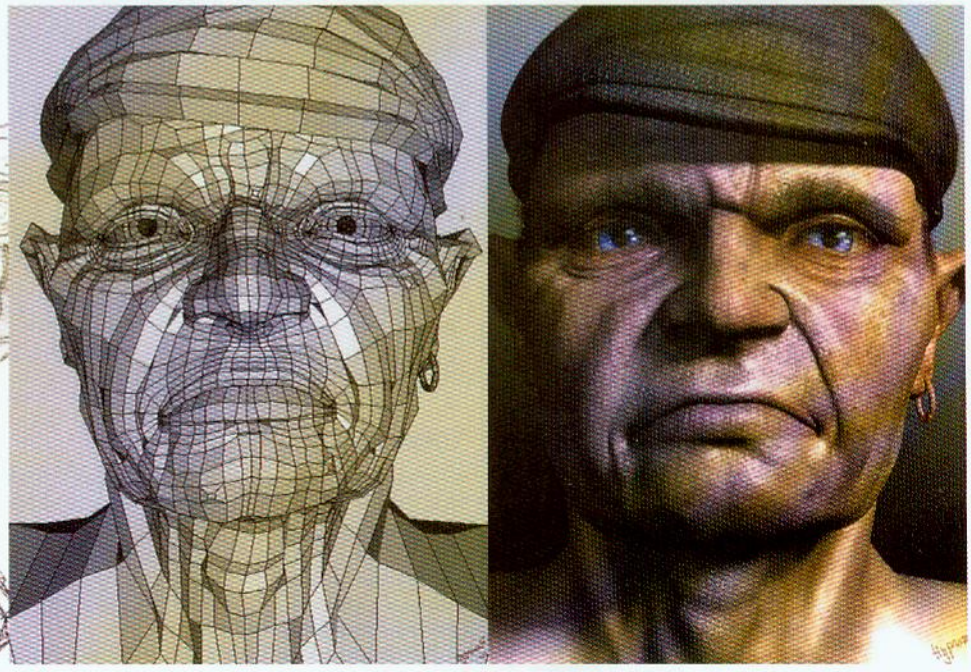
Frederic Lierman suggests that such attention to detail is essential in all areas of 3D figure modelling, saying, "Before I create a character I'll gather as much reference material as I can." He also mentions that once the final render is complete, he'll do further work on the model in *Photoshop*. So is there any real advantage in using 3D software for figure work?

"Absolutely," says Jim Armstrong from 2112 F/X, "After all, what happens when you don't have a real person that meets the spec?" He cites a recent project that required the construction of a reporter from the Mexican–American war, circa the mid-1800s. "There are no suitable images to retouch," explains Jim. "Even if there were, a picture only represents a single camera angle and we often need to see characters from multiple angles."

According to Steven Stahlberg, hair, joint deformations and facial expressions are the biggest challenges that face those who are attempting to accurately model realistic 3D human figures.

Even in highly stylised work, such as Framestore CFC's ice maidens for the recent James Bond film, the quest for the perfect body continues. However, along with including slight bodily imperfections for realism, this sequence also included imperfections in the 'ice' itself.

When creating figures for games, everything must be simplified – hands are made to form a fist or to open slightly, but that's all. Any additions to the character (hair, clothes, accessories and so on) are often handled by textures rather than meshes.



Frederic Lierman created this illustration exclusively for this article. He cites flexibility as a major reason for using 3D for creating images of humans, saying, "If you're unhappy with the image's perspective or the camera angle, you can easily adjust it."

3D modelling also enables extreme stylisation, used to great effect by Framestore CFC when creating the 'ice maidens' for the recent James Bond movie. However, Framestore's Andrew Daffy says the project began by referencing reality: "We scanned a real woman, and for the animation we rotoscoped movements from footage of a gyrating woman." This meant the characters were somehow believable, even though they were made of ice. The realism was enhanced by adding further imperfections. "As soon as you bend ice, it looks like gelatine, so movements were sharpened, while the bendy areas of the ice figures gained tiny hairline cracks," Andrew explains.

However, Steven Stahlberg notes that animation makes a huge difference to 3D projects. "Moving images are hundreds of times harder to pull off realistically than stills," he says. "Sculpting deals with most 2D issues, which can be further ironed out via retouching, but animators have to take into account how joint deformation and movement affects a model."

Video game characters

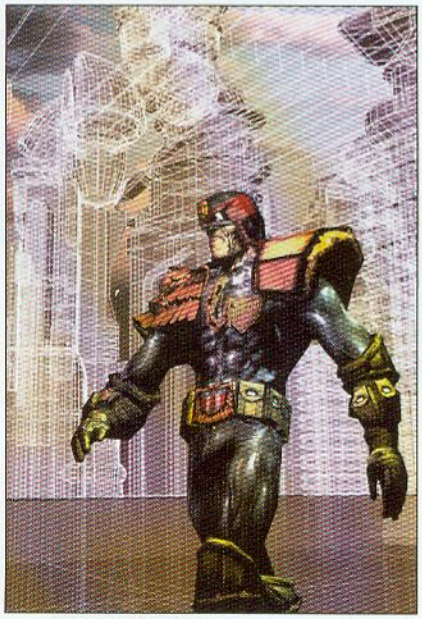
Rebellion Development's David Walsh talks to us about creating perfect bodies for video games...

Hardware limitations mean the level of detail achieved in film, television and print is impractical for video games. "We work from the ground up, beginning with simple shapes," says David. "The polygon count is limited – around 3,000 – meaning nuances of the body are lost, such as eyes and ears not being symmetrical. We mirror arms, legs and sometimes the face and body, so our characters are perfect in that sense."

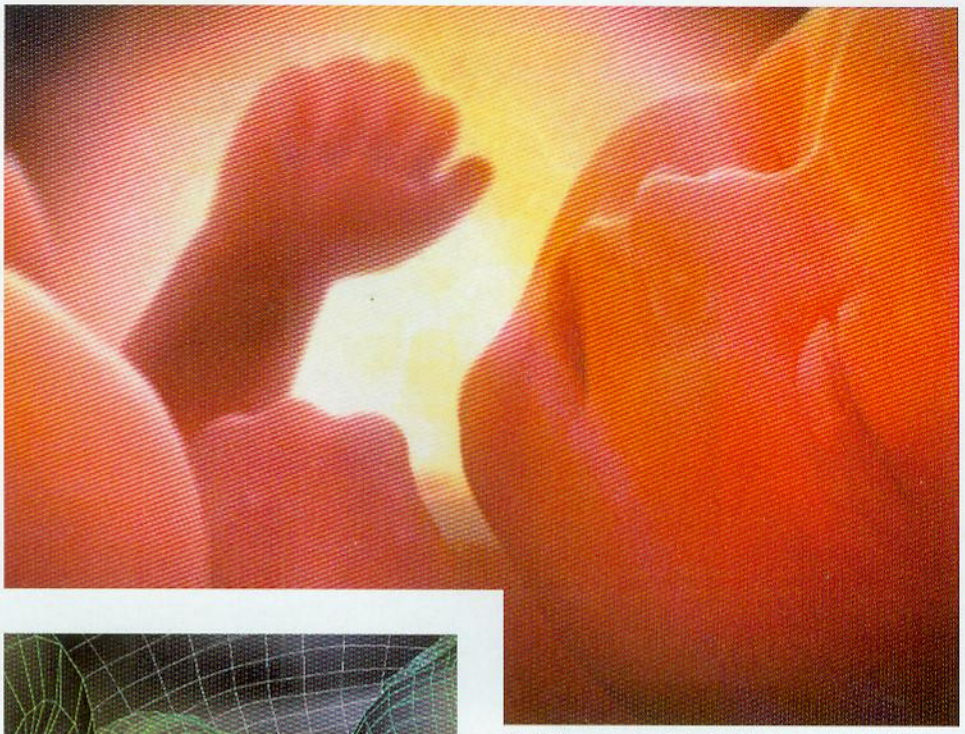
Such characters are exaggerated and stylised, but imperfections are still added to make things more believable. As David says, "It's useful to put something in the mesh to indicate what's happening with a character – for example, a wrinkle at the knee to show where clothes are creasing."

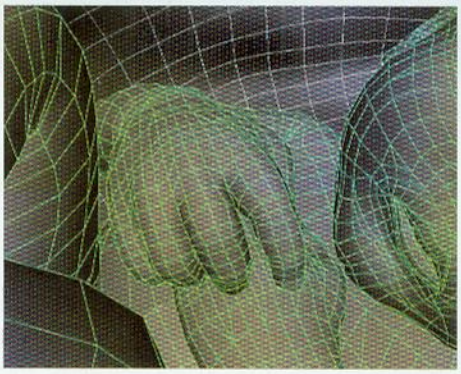
One thing that shouldn't be altered is lighting. As David explains, "Artists often add highlights and shadows on their textures to define shapes, but game engines provide such things." He also notes that working with purely photographic textures often creates 'flat' characters, so it's important to work into material to create organic textures for skin, hair and cloth.

"If this sounds less than perfect, it is," David says. "The games industry is concerned with the illusion of perfection rather than perfection itself. No digital character holds up to close scrutiny – the way it looks or moves eventually gives it away, but that's true for landmark, high-end digital characters too."



The perfect body in video games often moves into the realm of hyper-realism. Nuances of real life are lost and are replaced by larger than life elements, such as the muscles and chin on this render of Judge Dredd.





The Mill's work on the Badenia Baby commercial highlights how a realistic but slightly stylised model can help make something believable. Here, the foetus is fed up with constantly getting woken up by noise and ends up knocking on the womb to get its mother to pipe down.

He also warns against using 3D for the sake of it: "If a photo is almost there and only a little retouching is needed, then that's obviously the way to go."

LOOKING TO THE FUTURE

Even taking such things into consideration, there's little doubt that the use of 3D for creating human figures will continue to grow. While there's plenty of initial hard work involved in creating them, the results are considerably more flexible than 2D stills. For example, once you're finished, you can amend camera angles and experiment with compositions.

Jim Armstrong also makes the point that elements can be recycled, saying, "I model things like ears, hands, feet and heads separately. These can then be reused – with some modification – in other models by stitching them into the new control mesh."

These methods reduce project costs, and the relevant software and hardware also continue to drop in price. "3D software and hardware is becoming cheaper and more powerful every year," says Jim. "Even solo freelancers can now afford the necessary technology. In the past, there were significant cost and technological barriers to producing high-quality 3D characters. Now the primary issues are the skills of the modellers, texture artists and animators."

This cost effectiveness means that even those at the other end of the scale are discovering new avenues for 3D figure work. "It's increasingly common to see 3D characters acting major roles, such as Spider-Man, Hulk and Gollum from *Lord of the Rings*," says Rob van den Bragt. "There's even an awards category for virtual actors being created at some award ceremonies."

This means that restrictions regarding people's physical abilities no longer apply, just as the requirement of a physical person in a print photo shoot may soon be obsolete. As for the perfect body itself, Rob reckons there's no such thing.

"Perfection depends entirely on the time in which we live, and in personal preferences," he says. "Right now, a slightly muscular look is popular, but centuries ago it was the voluptuous lady. The most important thing to remember is that the perfect body is the one that is almost perfect." cap

Expertise and images provided by Rebellion Developments ([w] www.rebellion.co.uk), Steven Stahlberg ([w] http://optidigit.com/stevens/), Frederic Lierman ([w] www.fre3d.com), Framestore CFC ([w] www.framestore-cfc.com), Alkamy ([w] www.alkamy.com), The Mill ([w] www.mill.co.uk), Soho-Cyberscan ([w] www.soho-cyberscan.com), 2112 F/X ([w] www.2112fx.com). Words by Craig Grannell ([w] www.snubcommunications.com).

PLANNING THE PERFECT PHOTO SHOOT

To capture the best image you need the best studio, but there's a lot more to this than simply draping a bed sheet over your woodchip wallpaper...

Many novice photographers are rather apprehensive when it comes to studio work. Taking your camera around to snap images of everyday life provides a range of forgivable situational circumstances, such as lighting conditions and timing, but in the studio an image is expected to be perfect in every detail because the shot is carefully prepared and composed.

In actual fact, studio photography can be much easier simply because of these factors. With absolute control of your environment and subject, more time can be put into achieving the perfect shot, meaning you will rely less on adjusting and retouching your images than might otherwise be necessary.

The studio shouldn't be seen as the preserve of the professional though. As we'll outline here, by considering a few key issues there is no reason why you can't use one to create your own imagery, without relying on expensive and dedicated professional time.

Your own studio

One of the main aspects to consider when setting up your own studio is its location. If you're planning on taking shots of models then you'll need a reasonably large space to contain the scene and your equipment. A spare room or garage may well suffice but consider whether the height and width of your location are adequate to contain not just your subject but also the necessary lighting kits, backgrounds and so on.

Studio coving on a large scale blends the floor and ceiling so a subject can be shot without distracting background elements.

You'll also need to consider the depth that's going to be necessary for such shots. A seated portrait shot may only require the camera to be a metre or so away from the subject but the lighting and backlighting could make a five-metre deep location a necessity for standing poses. If possible, make use of a larger space for your studio – you can easily shoot from a corner but it's hard to expand outside the confines of a studio that's too small.

The decor of your studio isn't all that important because you'll inevitably be using backgrounds and props as part of your compositions, but walls painted >

The standard studio light is a halogen bulb with controls for dimming, flash synchronisation and so on. With your light mounted on a stand with a diffuser fitted over it, the light is softened and can be used to fill areas and reduce shadows in your subject.

A typical professional's kit will include at least one main camera with various lenses, plus a light meter, flash and extra memory.

with neutral tones will reduce the chances of reflected light influencing the image. Daylight should also be blocked out so it doesn't influence the shot, giving you greater control over the final image.

The camera

Choosing a suitable camera is another consideration that can greatly influence image quality and there are numerous options depending on the end format for which your work is intended.

Fine Art prints normally make the highest demands on a camera, making use of contact prints for the ultimate in quality. A high-resolution digital camera of around 6 megapixels can rival a high-resolution scan from a 35mm transparency, although the quality of the scan makes an enormous difference.

Taking shots intended for whole page (or above) book or magazine work will benefit greatly from formats larger than 35mm. There's a definite 'look' to prints from medium format (MF) and more especially with large format (LF) that simply cannot be duplicated with 35mm. Most origination houses will prefer these larger transparencies for higher quality results, although for smaller illustrations a digital image from a 3-megapixel or higher camera may do the trick.

For imagery intended for Web distribution, there is no real advantage to using anything higher than a 1.3-megapixel resolution because the 72dpi screen resolution will be unable to render more image detail. However, you may prefer to take images at a higher resolution for more controlled editing and retouching.

Lighting

Curiously, lighting is one of those areas that many photographers find to be a weakness. Unless you've had the chance to see a professional studio in action, the choice and terms which are commonly used can be somewhat intimidating, although there's really not that much to learn.

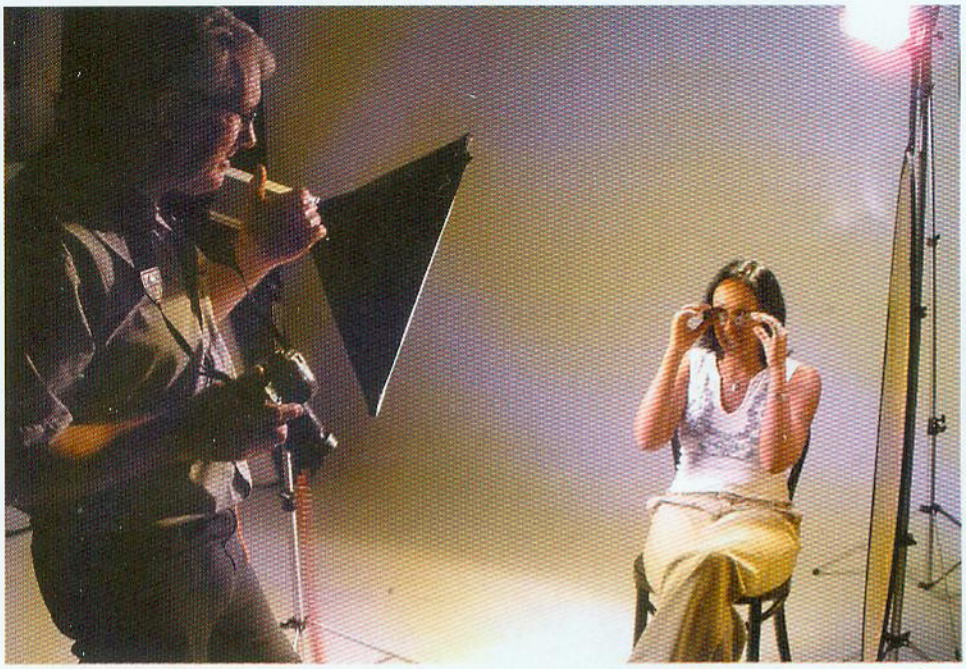
The main principle lies around a single main light source with supportive lighting to balance contrast control and achieve the final effect. The primary light source is known as the 'key', with subsidiary, softer lighting known as 'fill', which lessens shaded areas where necessary. The best results are achieved by balancing the key and fill lighting so that shadows become naturally lit, without bleaching the subject. Crossing shadows is a common error made by many novice photographers, where the key and fill are poorly matched, leading to noticeable shading. For example, you may see this where there are shadows on both sides of a model's nose in a portrait shot.

The fill is often diffused over a dedicated reflector to soften the tones, although experimentation with alternative materials such as white painted plyboard or polystyrene tiles held just out of shot can also recreate the same effect just as well. Other effects can be achieved by using 'flags' and 'gobos', which are panels that shade part of a subject, or three-winged triflectors that wrap light around a subject and are incredibly flattering for facial shots.

The set

There are various essential accessories that you'll need to consider for your studio, including tripods and lighting stands. The pillar-type stand is by far the most effective form of camera support, allowing you to move the camera from ground level to full height in seconds. This is particularly useful when compared to the amount of time needed to adjust traditional camera tripods. They can be incredibly expensive, bulky and heavy though, so they're only really an option for more dedicated photographers.

Making sure your kit is portable is a key factor. You may have your own studio but you will want to shoot on location at times.



Communicating with your subject is vital. It helps to keep both the photographer and the model at their ease for more natural results.

A background to your subject is another essential. You could make use of sheeting, although background paper, known generically as Colorama, can be bought from many leading photographic stores in seamless rolls and is better for creating smooth coving which curves the back wall to the floor. This helps to remove the dominant background, leaving your subject looking like they're floating in space.

You may also want to make use of filters that attach to your camera. These are available to cover a variety of purposes, from light to colour correction, although more and more digital photographers prefer to recreate the effects these accessories provide by manipulating images in *Photoshop*.

Another important aspect that is often overlooked when you're setting up your own studio is the props and furniture you'll need. There will undoubtedly be occasions when a model against a backdrop is enough for the job, but you should always have enough stools or boxes to help achieve various poses.

With considered lighting and a subject at their ease, the actual shoot is possible. This image was taken by John Price.

Into perspective

There is a fair amount to consider when setting up your own studio but you can easily convert an existing room into a temporary location for your photography with relative ease and at a low cost. Also, with the basics in place you'll have the best possible environment in which to shoot imagery that's more suited to what you want to achieve, without having to resort to excessive software retouching.

With digital photography becoming more common, the process of transferring imagery into a computer for further adjustment is greatly simplified, but spending a little extra on a decent digital SLR such as the Nikon D100 or Canon EOS 10D will give you a little more flexibility in your results. After all, if the original image is as near to perfection for your requirements as possible, you'll save time in retouching and achieve much more desirable results.

Of course, having the kit won't automatically make you a great photographer, but technique can be studied, and with the basic studio set-up you can experiment as you develop your own style. ca•p

Expertise provided by Chris Schmidt. Chris is a freelance journalist and you can contact him at [e] chris@track5.co.uk. Thanks to John Price from Epcot Images ([w] www.epcotimages.com) for his time and advice and for allowing us to capture him at work with singer JazzPoppy ([w] www.jazzpoppy.com).

Words of wisdom

Professional photographer John Price gives us some advice on how to get the perfect shot...

The images in this article were taken of professional photographer John Price at work. John runs his own photography business, taking pictures of people and places for corporate clients, as well as for his own stock photography library at [w] www.epcotimages.com. We're grateful to John for his time and the professional advice that he was more than happy to give us s on using a studio to get the perfect shot.

One of John's main suggestions is to keep your subject relaxed. "Being at ease with your subject will help them to relax and provide a more natural picture," he explains. "If you're feeling tense or nervous, your subject will pick up on this and mirror your feelings."

One way of getting and keeping your subject in this frame of mind is with forward planning. "Prepare your set-up beforehand and work with an assistant to get the studio set up how you anticipate the shoot to work," John says. "Your subject should be able to walk into the studio and get straight in front of the camera."

To even get to this point requires forward planning. For example, a corporate portrait will need a different approach than a portrait for a singer. "Understand the brief and know how you will treat the process to get the result you need, such as high contrast or desaturated images," John explains. He also stresses the importance of knowing what you can achieve, saying, "Keep abreast of current technological developments and explore the potential available through software such as *Photoshop*."

As a final note, John stresses the importance of understanding the history and rules of photography. As he points out, "You have to be passionate about your work and understand not just technical aspects but also how past photographers have developed standard. Once you understand the rules, you can start to bend them.

"A truly successful image manages to capture the emotion of the subject while considering the technical requirements. Once that balance is met, you'll be on the way to creating great photography."

For examples of John Price's work, check out his image library online at [w] www.epcotimages.com.

COMPUTER arts projects INTERACTIVE

On the CD

Your guide to the free extras given away on this issue's cover disc...

WORTH $50

FULL PLUG-IN

FocusFixer 1.0 – full version

Bring out the best in your photographs with *FocusFixer*, a full Photoshop plug-in worth $50...

Unfortunately, it's all too common to pick up your photographs from developers and be dismayed at the out of focus results. While out of focus areas can be a deliberate artistic effect when you're aiming to produce depth of field, you may still find that some details you would have preferred to keep have been lost. With the careful use of *FocusFixer* from FixerLabs, most of this detail can be recovered.

FocusFixer provides an effective and innovative way of restoring images that are out of focus. The techniques it uses are very processor intensive yet they are incredibly simple to control, with only a single slider used to control its effects. While *FocusFixer* can't perform miracles with your images, it can certainly rescue many of those photographs that would otherwise have ended up in your bin.

Using FocusFixer 1.0

See how you can rescue your blurred photos with this plug-in...

1 On this out of focus bird image, the Lasso tool is used to select the outline and feathering is set to six pixels. Now we can make use of the single slider in *FocusFixer* to sharpen the image.

2 With the slider all the way to the left, the bird will look too soft, while artifacts appear if it's too far to the right. Careful positioning enables us to get the level of sharpness required with ease.

Installing and upgrading

To install this plug-in, simply click on the Install button on the CD interface and select your *Photoshop* Plug-ins folder. To unlock the full version of this software, you will need to register online at the following site: [w] www.fixerlabs.com/offers/3313353637.html.

The demo of *FocusFixer 1.1* is also on this month's cover CD, and if you are impressed by the improvements it offers, you may want to upgrade to the latest version of the software. It costs $45 and is available from: [w] www.fixerlabs.com/offers/1825133973.html.

1 A preview window enables you to see the effects of *FocusFixer*'s slider effects, meaning you can experiment and find the ideal balance between sharpness and picture clarity.

2 Simply position the slider where the focus is clearest to make the most of your images. There are also Zoom tools so you can get a close-up view to see how sharp your image is.

DUAL DEMO

Photoshop 7.0 demo

Photoshop has been the heart of the digital artist's toolkit for a long time, and the latest version is the best yet...

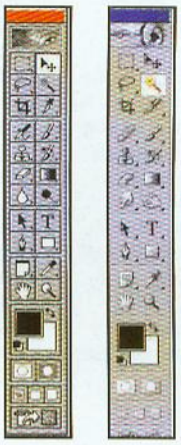
Adobe's *Photoshop* is the Swiss Army knife of graphics programs: it does everything from creating Web graphics to tweaking photos to putting your arm around the body of your favourite actor, and the latest version of the software offers an even more impressive set of tools.

The first main new feature is that *Photoshop 7* is now available for Mac OSX, allowing you to ditch OS9 and, among other things, make full use of the protected memory functionality of Apple's most popular operating system.

The software also sports a warmer look and feel. As you can see by the new Tools palette on the right, things are a little more shaded and slightly less boxy in *Photoshop 7*. Also, when you select a tool it turns from black and white into colour, giving you extra clarity and simplifying the selection process.

The new Healing tool is similar to the Clone tool but working in the same way illustrates one huge difference – the preservation of shading, texture, tone and so on when cloning from a source point. Another plus is that there's now a built-in spell checker too, which many people will say is extremely overdue.

Many of *Photoshop*'s major tools have had facelifts in this updated version, and the overall performance has been improved too, making Adobe's software continue to be the most thorough and intuitive image-editing solution available.



The new toolbars feature some subtle shading effects to enhance your creative environment.

DEMOS

15 Photoshop plug-ins

55mm (Dual): This plus-in enables you to simulate popular glass camera filters, specialised lenses, optical lab processes, film grain and exacting colour correction, all in a controlled digital environment with either 8 or 16 bits per channel processing.

Auto Eye (Dual): *AutoEye 2.0* features revolutionary new technologies that rebuild lost detail and colour in images, providing amazing improvements.

DigitalGem (Dual): An image correction and enhancement plug-in family for *Photoshop* and other compatible image editing applications.

FocusFixer 1.1 (Dual): A great update to the full version of *FocusFixer* on this month's cover disc.

FocusMagic (PC): This photo restoration program enables you to refocus, sharpen or retouch any of your blurred photographs.

Image Doctor (Dual): *Image Doctor* removes blemishes and defects, quickly repairs over-compressed JPEGs and seamlessly replaces unwanted details and objects to enhance and improve your images.

Intellihance Pro (Dual): *Intellihance Pro* can take a whole folder of images, analyse each one individually and then correct whatever errors it finds.

Lens Doc (Dual): A *Photoshop*-compatible plug-in that corrects barrelling and pincushioning distortions in your photos which are produced by many zoom and wide angle lenses.

LensCare (PC): Use this great tool to move depth of field and out of focus generation to post processing.

Light (Dual): The *Light! Photoshop* filter adds light to the scene, just as if you were adding a light at the time of shooting.

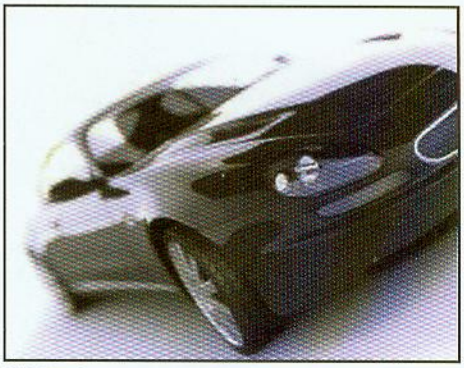
Meloncholytron (Dual): This plug-in enables you to make pictures moody, nostalgic and strangely sad.

Mr Contrast (Dual): Add dramatic contrast to images and hyper-emphasise detail.

Nik Colour Efex (Dual): This is a set of digital photographic filters which can be used for image enhancing, optimising and stylising, as well as for professional photographic darkroom effects.

Nik Sharpener (Dual): *nik Sharpener Pro! Home Edition* utilises the most effective combination of features available in order to protect a photograph's qualities during the sharpening process, ensuring you get the results you want.

Photography Filtera (Dual): This is a fantastic collection of ten filters that enables you to quickly and easily add a variety of special optical lens effects to all of your images .



With *LensCare*, you can tweak the depth of field of your images.

BOOK REVIEWS

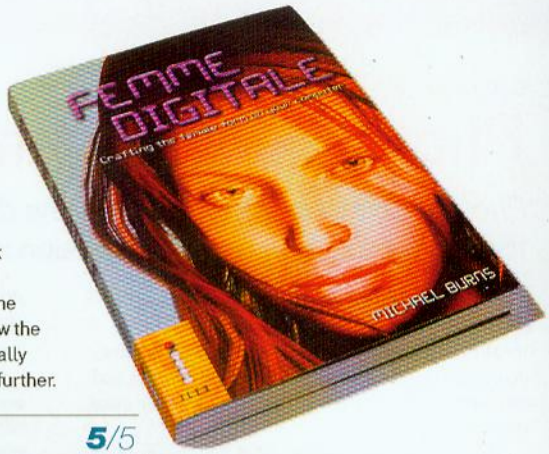
FEMME DIGITALE

Authors **Michael Burns** Publisher **Ilex Press** Price **£19.99** ISBN **1904705022**

From the first page it is clear that this new graphic arts book publisher has produced a very well crafted title. Not only is it a feast for the eye, but it also offers practical advice for all budding 2D and 3D artists. Covering every aspect of digitally modelling the female form, this isn't an in-depth, hands-on manual, but rather an overview of the entire subject.

Early chapters look closely at this art form, along with the hardware and software that makes it possible. Packages like *Poser*, *Maya* and *Photoshop* take centre stage throughout most of the tutorials. While these tutorials are more illustrative than practical teaching aids, some of the world's leading artists do offer mini tutorials that offer a more detailed insight into the creation of each image.

Later chapters look closely at individual elements of a scene, such as lighting, composition and texture. Each element is profusely illustrated with images that show how each piece of work was created, and the images themselves are the key to this book. Reminiscent of the *Wow!* series of books, the pictures that fill each and every one of the 600 full-colour plates are the real stars. Concluding chapters give details of current software and hardware as well as Internet resources, but while there is some practical advice on offer, don't expect to pick up any tips. However, if you are looking for just one book that will explain how the female form can be digitally modelled today, look no further.



VERDICT **5**/5

SECRETS OF FIGURE CREATION WITH POSER 5

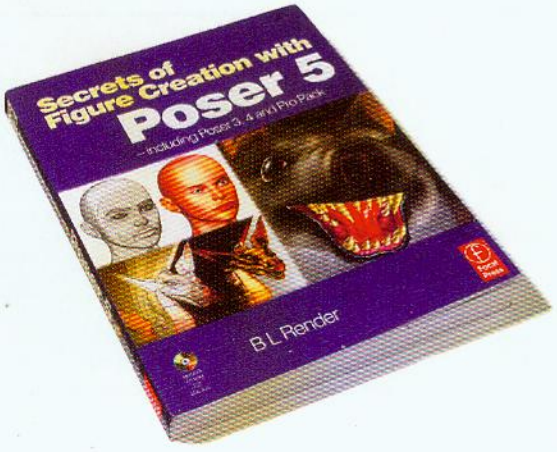
Authors **B. L. Render** Publisher **Focal Press**
Price **£29.99** ISBN **0240519299**

Divided into six chapters, this guide covers *Poser* from version 3.0 and is aimed at the intermediate to advanced user. The author holds a masterclass in figure creation and by passing on his hard-won knowledge in this book, you will be able to take a quantum leap in your own figure creation.

The most useful chapter covers how to manipulate *Poser* library files and how to troubleshoot your work. This in itself is a treasure trove of advice and detailed information that will enable you to avoid hours of fruitless effort and frustration as you master each of *Poser*'s features.

This is a manual that sets out to teach you about some of the more subtle details that *Poser* offers to the artist. Images are sparse and only illustrate a point made in the text when absolutely necessary. This isn't a step-by-step guide as such, but more of an advanced user's reference book – much of the information here will leave beginners out of their depth. If you're ready to push your use of *Poser* to the next level, this book will show you how.

VERDICT **4.5**/5



PHOTOSHOP COLOR CORRECTION

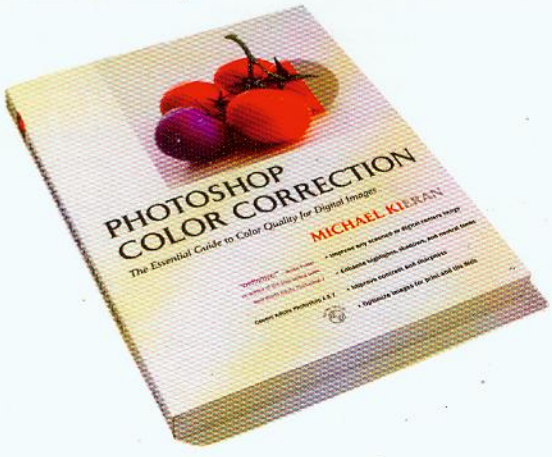
Authors **Michael Kieran** Publisher **Peachpit Press**
Price **£37.99** ISBN **0321124014**

Covering every aspect of colour correction, the first two chapters of this book should be read by anyone who has to manipulate colour images before they even open *Photoshop*. The explanations of colour perception, the different colour models and the guides on handling colour reproduction are the foundations that successful colour correction is built on.

Each section has masses of information, but more worked examples would have made the more complex information easier to understand. The author assumes the reader has a very high level of *Photoshop* knowledge. Screenshots are only occasionally used and there are only before and after images of the techniques discussed, meaning that an opportunity to make this book more accessible to a wider audience has been missed.

Overall, this is a manual for at least intermediate *Photoshop* users. Much of the text assumes quite a high level of understanding of colour theory, but the information is authoritative and offers any *Photoshop* artist the chance to vastly improve the colour in their images.

VERDICT **4**/5



PHOTOSHOP FACE TO FACE

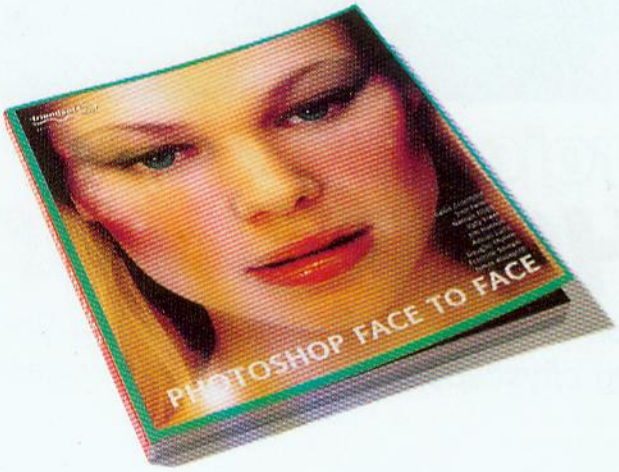
Authors **Gavin Cromhout et al** Publisher **Friends of Ed**
Price **£32.99** ISBN **1903450845**

At first glance this book would seem to offer detailed information on how to colour correct and enhance faces in *Photoshop*, but on closer inspection this is far from the truth. If you can put up with the author's chatty style then you may pick up one or two pieces of information that may be useful, but in general this book does not offer the *Photoshop* user any real insight into the subject it purports to be about.

The quality of the reproduced images also leaves a lot to be desired, with what appear to be underexposed original photos that each technique is then applied to. In addition, the book is aimed firmly at the intermediate *Photoshop* user and no step-by-step tutorials are given. *Photoshop* features and techniques are only mentioned in passing, with no real explanation for the more inexperienced user.

This book simply presents a catalogue of *Photoshop* techniques that have just been applied to one type of image – the face. If you were expecting to find a manual that would give you an insight into how the stunning airbrushed faces that grace the covers of today's glossy magazine were achieved, you will be severely disappointed by this book.

VERDICT **3**/5



VIRTUAL POSE 1 & 2

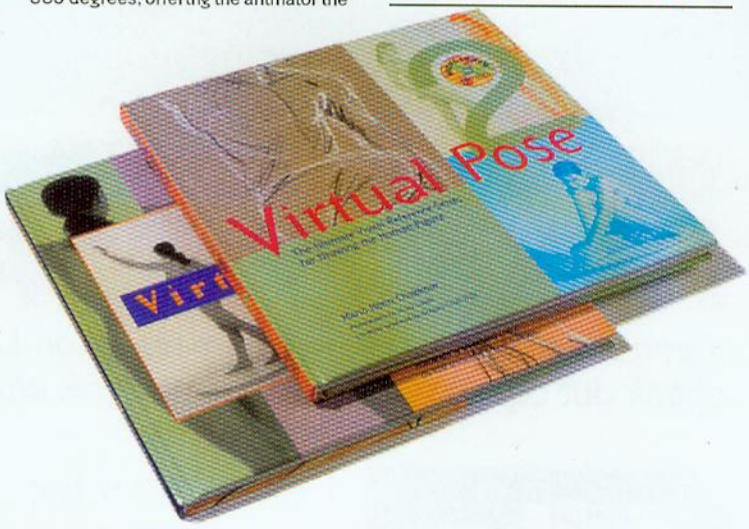
Authors **Mario Henri Chakkour** Publisher **Design Books Int.**
Price **£21.99 (each)** ISBN **096663831X / 0966638352**

Software packages like *Poser* offer the animator the chance to quickly build a character's basic shape and form. There is, however, no substitute for actually modelling a 3D digital human from the real thing, although few animators have the luxury of live models with which to sketch and draw from. That is where these two books come in very handy indeed.

Split over two volumes, these books offer a printed reference to the human form in various poses. The CD-ROM that accompanies each volume includes each of these poses and they can be zoomed into and also rotated through 360 degrees, offering the animator the nearest thing they're going to get to a live model on his desktop.

The quality of the images is a major concern with these reference books. Here, most of the printed images are in black and white and the images on the CD-ROM tend to pixellate when zoomed into. However, as a guide to the human form in many poses, these volumes offer the animator another reference resource that in most cases they would not have access to. Used in conjunction with your favourite modelling program, they can be a genuinely useful asset.

VERDICT **3.5**/5

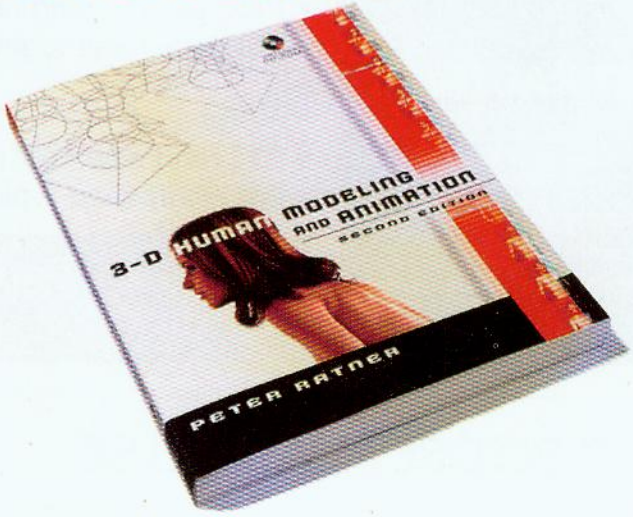


3D HUMAN MODELLING AND ANIMATION (2ND EDITION)

Author **Peter Ratner** Publisher **John Wiley & Sons**
Price **£38.50** ISBN **0471215481**

Those of you looking to discover the intricacies of 3D modelling will find that this book is an excellent place to start. It begins with easy to follow tutorials that illustrate how to model simple geometric shapes, offering a superb foundation on which to build your knowledge and skills as you tackle increasingly more complex modelling and animation projects.

The accompanying CD contains all of the sample files you will need, but it's the detailed theory which is contained in the book itself that really makes this title stand out. You not only learn how to complete 3D models, but also how the underlying structure should be handled. This depth of knowledge is often lacking in other books that purport to teach the art of 3D modelling and animation.

The animation section isn't as thorough as it should be, but it is useful nonetheless. An extra plus point is that the book is not software specific, enabling you to follow each tutorial with your own favourite modelling and animation packages. As an overview of the entire modelling and animation sequence, this book offers excellent, well presented information that beginners in particular will benefit from.

VERDICT **4.5**/5